

A -

FIGURE 1

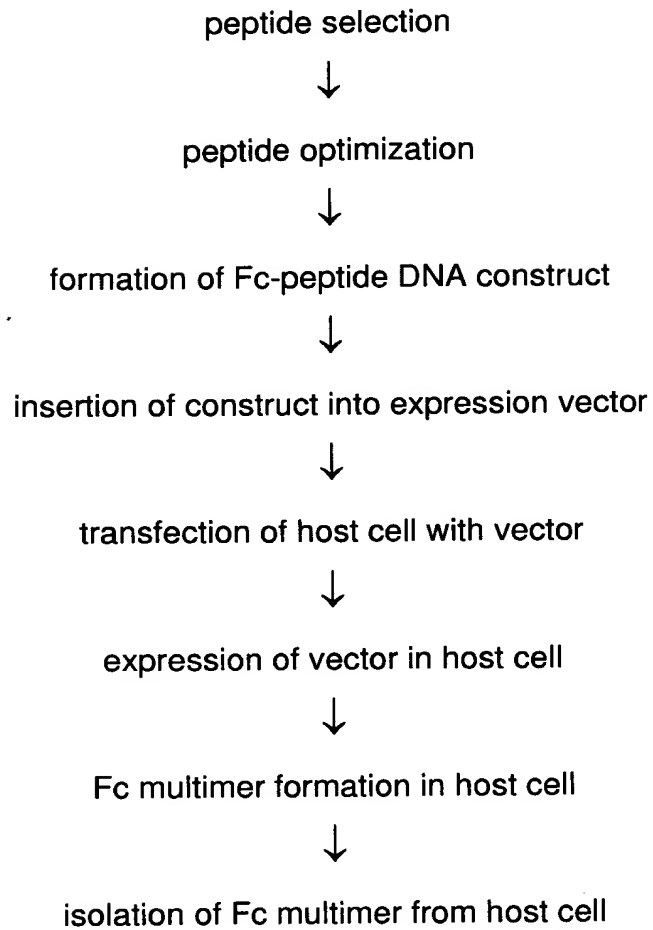


FIGURE 2

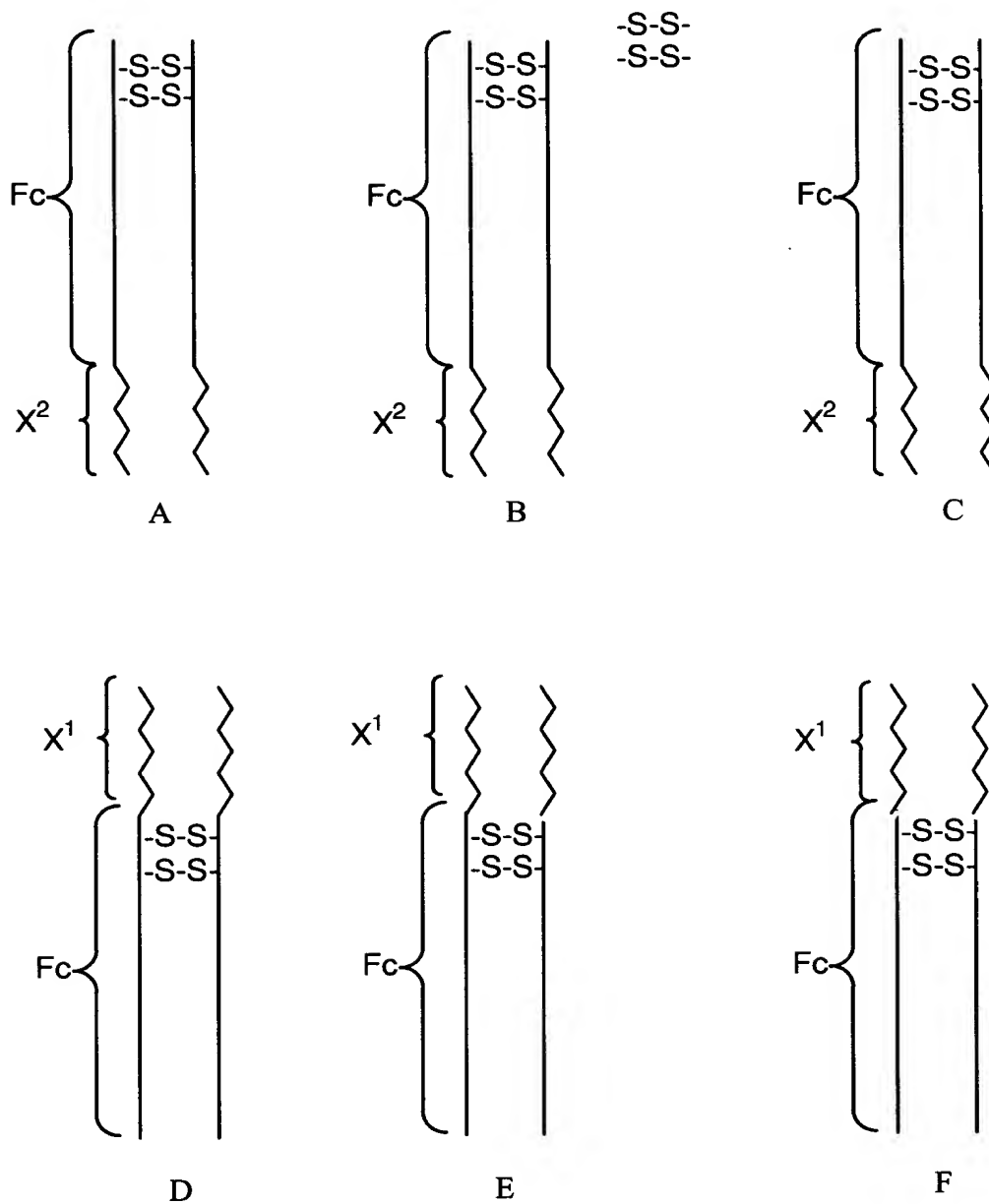


FIGURE 3

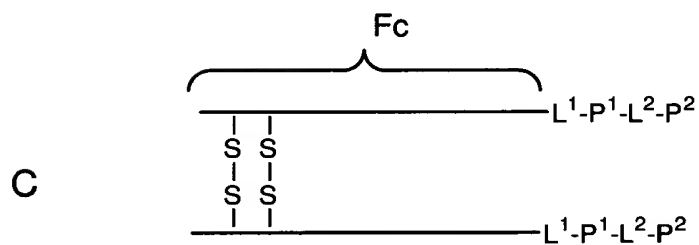
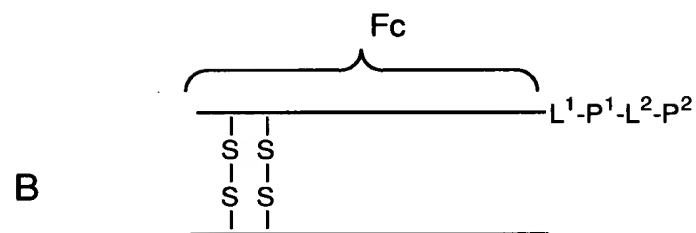
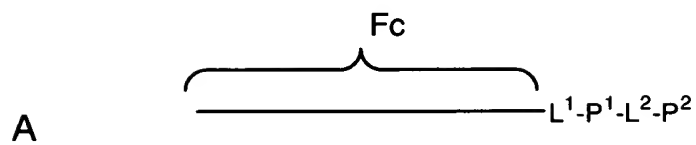


FIGURE 4

```

ATGGACAAAACACACATGTCCACCTTGTCAGCTCCGGAACCTCTGGGGGACCGTCA
1  -----+-----+-----+-----+-----+-----+-----+ 60
TACCTGTTTTGAGTGTGTACAGGTGGAACAGGTCGAGGCCTTGAGGACCCCCCTGGCAGT

a      M D K T H T C P P C P A P E L L G G P S -

61      GTCTTCCTCTTCCCCCAAAACCAAGGACACCCTCATGATCTCCCGGACCCCTGAGGTC
-----+-----+-----+-----+-----+-----+-----+ 120
CAGAAGGAGAAGGGGGGTTTGGGTTCTGTGGGAGTACTAGAGGGCCTGGGGACTCCAG

a      V F L F P P K P K D T L M I S R T P E V -

121     ACATGCGTGGTGGTGGACGTGAGCCACGAAGACCCTGAGGTCAAGTTCAACTGGTACGTG
-----+-----+-----+-----+-----+-----+-----+ 180
TGTACGCACCACCACCTGCACCTCGGTGCTTCTGGGACTCCAGTTCAAGTTGACCATGCAC

a      T C V V V D V S H E D P E V K F N W Y V -

181     GACGGCGTGGAGGTGCATAATGCCAAGACAAAGCCGCGGGAGGAGCAGTACAACAGCACG
-----+-----+-----+-----+-----+-----+-----+ 240
CTGCCGCACCTCCACGTATTACGGTTCTGTTTCGGCGCCCTCCTCGTCATGTTGTCTGTC

a      D G V E V H N A K T K P R E E Q Y N S T -

241     TACCGTGTGGTCAGCGTCTCACCGTCTGCACCAGGACTGGCTGAATGGCAAGGAGTAC
-----+-----+-----+-----+-----+-----+-----+ 300
ATGGCACACCAGTCGCAGGAGTGGCAGGACGTGGTCTGACCGACTTACCGTTCCTCATG

a      Y R V V S V L T V L H Q D W L N G K E Y -

301     AAGTGCAAGGTCTCCAACAAAGCCCTCCCAGCCCCATCGAGAAAACCATCTCCAAAGCC
-----+-----+-----+-----+-----+-----+-----+ 360
TTCACGTTCCAGAGGTTGTTTCGGGAGGGTCGGGGGTAGCTCTTTTGGTAGAGGTTTCGG

a      K C K V S N K A L P A P I E K T I S K A -

361     AAAGGGCAGCCCCGAGAACCACAGGTGTACACCCTGCCCCATCCCGGGATGAGCTGACC
-----+-----+-----+-----+-----+-----+-----+ 420
TTTCCCGTCGGGGCTCTTGGTGTCCACATGTGGGACGGGGGTAGGGCCCTACTCGACTGG

a      K G Q P R E P Q V Y T L P P S R D E L T -

421     AAGAACCAGGTGAGCCTGACCTGCCTGGTCAAAGGCTTCTATCCCAGCGACATCGCCGTG
-----+-----+-----+-----+-----+-----+-----+ 480
TTCTTGGTCCAGTCGGACTGGACGGACCAGTTTCCGAAGATAGGGTCGCTGTAGCGGCAC

a      K N Q V S L T C L V K G F Y P S D I A V -

481     GAGTGGGAGAGCAATGGGCAGCCGGAACAACACTACAAGACCACGCCTCCCGTGCTGGAC
-----+-----+-----+-----+-----+-----+-----+ 540
CTCACCTCTCGTTACCCGTCGGCCTCTTGTGATGTTCTGGTGGGAGGGCACGACCTG

a      E W E S N G Q P E N N Y K T T P P V L D -

541     TCCGACGGCTCCTTCTTCCTCTACAGCAAGCTCACCGTGGACAAGAGCAGGTGGCAGCAG
-----+-----+-----+-----+-----+-----+-----+ 600
AGGCTGCCGAGGAAGAAGGAGATGTCGTTTCGAGTGGCACCTGTTCTCGTCCACCGTCGTC

a      S D G S F F L Y S K L T V D K S R W Q Q -

601     GGGAACGTCTTCTCATGCTCCGTGATGCATGAGGCTCTGCACAACCACTACACGCAGAAG
-----+-----+-----+-----+-----+-----+-----+ 660
CCCTTGACAGAAGGTACGAGGCACTACGTACTCCGAGACGTGTTGGTGATGTGCGTCTTC

a      G N V F S C S V M H E A L H N H Y T Q K -

661     AGCCTCTCCCTGTCTCCGGGTAAA
-----+-----+-----+-----+-----+-----+ 684
TCGGAGAGGGACAGAGGCCCATTT

a      S L S L S P G K

```

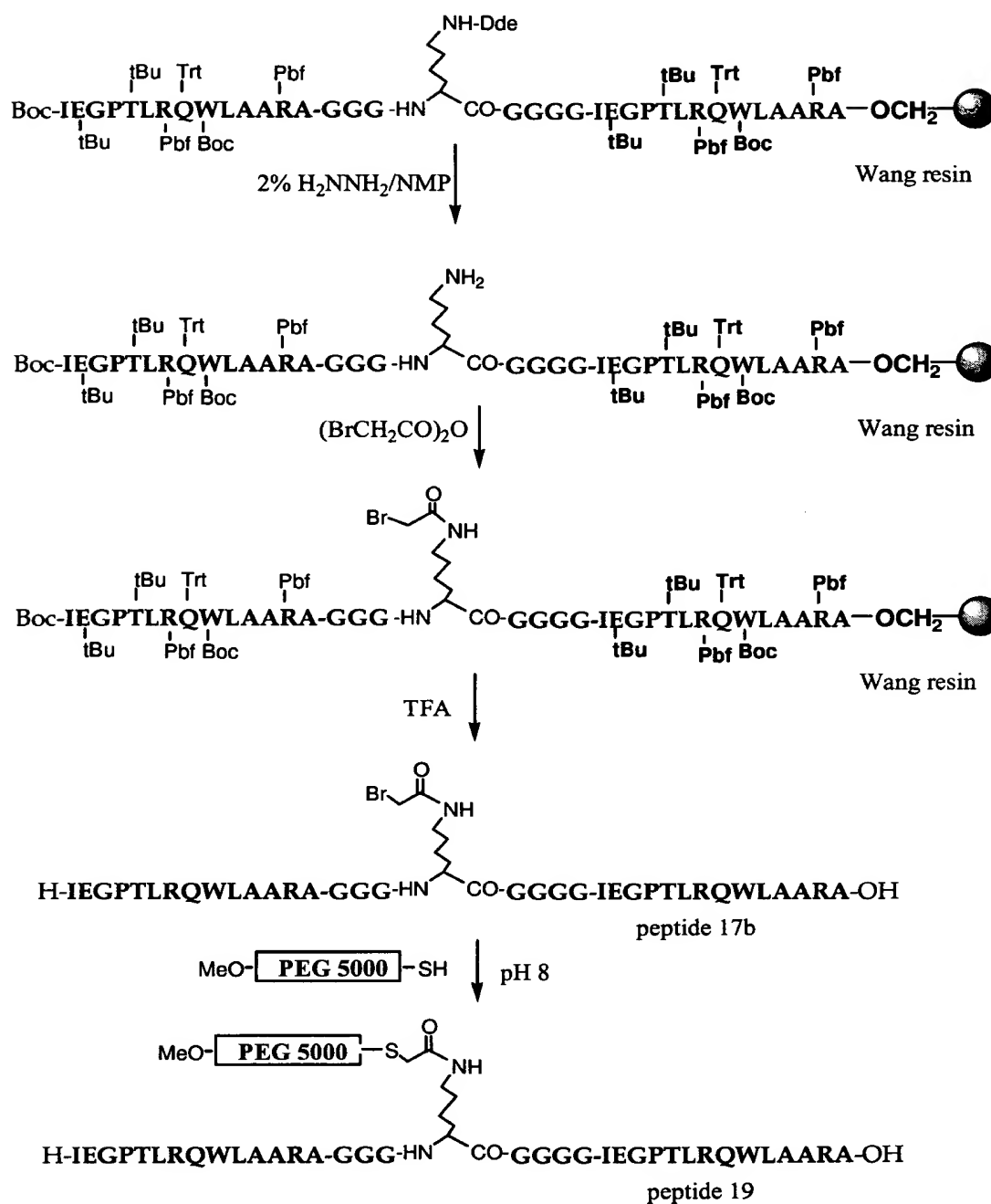
FIGURE 5

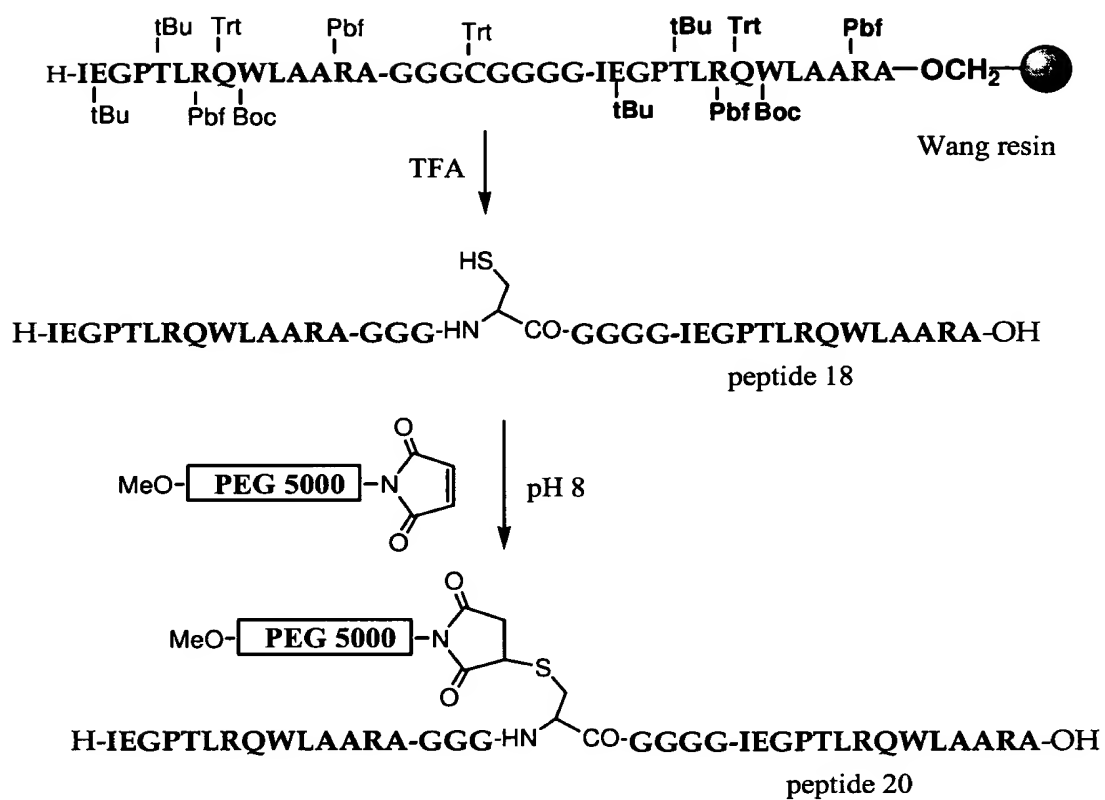
FIGURE 6

FIGURE 7

XbaI
|
TCTAGATTGTTTAACTAATTAAGGAGGAATAACATATGGACAAAACACACATGTC
1 -----+-----+-----+-----+-----+-----+-----+ 60
AGATCTAAACAAATGATTAATTTCTCTTATTGTATACCTGTTTGTAGTGTGTACAG
c M D K T H T C P -

CACCTTGTCAGCTCCGGAACCTCGGGGGACCGTCAGTCTTCTCTTCCCCCAAAAC
61 -----+-----+-----+-----+-----+-----+-----+ 120
GTGGAACAGGTCGAGGCCTTGAGGACCCCTGGCAGTCAGAAGGAGAAGGGGGTTTGT
c P C P A P E L L G G P S V F L F P P K P -

CCAAGGACACCCCTCATGATCTCCCGACCCCTGAGGTCACATGCGTGGTGGTGGACGTGA
121 -----+-----+-----+-----+-----+-----+-----+ 180
GGTTCCTGTGGGAGTACTAGAGGCCTGGGGACTCCAGTGTACGCACCACCACGTGCACT
c K D T L M I S R T P E V T C V V V D V S -

GCCACGAAGACCCCTGAGGTCAAGTTCAACTGGTACGTGGACGGCGTGGAGGTGCATAATG
181 -----+-----+-----+-----+-----+-----+-----+ 240
CGGTGCTTCTGGGACTCCAGTTCAAGTTGACCATGCACCTGCCGCACCTCCACGTATTAC
c H E D P E V K F N W Y V D G V E V H N A -

CCAAGACAAAGCCGCGGGAGGAGCAGTACAACAGCAGTACCGTGTGGTCAGCGTCTCTCA
241 -----+-----+-----+-----+-----+-----+-----+ 300
GGTTCCTGTTTCGGGCGCCCTCCTCGTCATGTTGTCGTGCATGGCACACAGTCGAGGAGT
c K T K P R E E Q Y N S T Y R V V S V L T -

CCGTCCTGCACCAGGACTGGCTGAATGGCAAGGAGTACAAGTGCAAGGTCTCCAACAAAG
301 -----+-----+-----+-----+-----+-----+-----+ 360
GGCAGGACGTGGTCTGACCGACTTACCGTTCCTCATGTTCCAGGTTGTTTC
c V L H Q D W L N G K E Y K C K V S N K A -

CCCTCCCAGCCCCATCGAGAAAACCATCTCCAAAGCAAAGGGCAGCCCCGAGAACCAC
361 -----+-----+-----+-----+-----+-----+-----+ 420
GGGAGGGTGGGGGTAGCTCTTTTGGTAGAGTTTTCGTTTCCCGTCGGGGCTCTTGGTG
c L P A P I E K T I S K A K G Q P R E P Q -

AGGTGTACACCCTGCCCCCATCCCGGATGAGCTGACCAAGAACCAGGTCAGCCTGACCT
421 -----+-----+-----+-----+-----+-----+-----+ 480
TCCACATGTGGGACGGGGGTAGGGCCCTACTCGACTGGTCTTGGTCCAGTCGAGTGGGA
c V Y T L P P S R D E L T K N Q V S L T C -

GCCTGGTCAAAGGCTTCTATCCCAGCGACATCGCCGTGGAGTGGGAGAGCAATGGGCAGC
481 -----+-----+-----+-----+-----+-----+-----+ 540
CGGACCAAGTTCCGAAGATAGGGTCGCTGTAGCGGCACCTCACCTCTCGTTACCCGTCG
c L V K G F Y P S D I A V E W E S N G Q P -

CGGAGAACAACATAAGACCACGCCCTCCCGTGTGACTCCGACGGCTCCTTCTCTCTCT
541 -----+-----+-----+-----+-----+-----+-----+ 600
GCCCTCTGTTGATGTTCTGGTGGGAGGGCAGCACCTGAGGCTGCCGAGGAAGAAGGAGA
c E N N Y K T T P P V L D S D G S F F L Y -

ACAGCAAGCTCACCGTGGACAAGAGCAGGTGGCAGCAGGGGAACGTCTTCTCATGCTCCG
601 -----+-----+-----+-----+-----+-----+-----+ 660
TGTCGTTTCAGTGGCACCTGTTCTCTCCACCGTCGTCCCTTGCAGAAGAGTACGAGGC
c S K L T V D K S R W Q Q G N V F S C S V -

TGATGCATGAGGCTCTGCACAACCACTACACGCAGAAGAGCCTCTCCCTGTCTCCGGGTA
661 -----+-----+-----+-----+-----+-----+-----+ 720
ACTACGTACTCCGAGACGTGTTGGTGTGTGCGTCTTCTCGGAGAGGGACAGAGGCCCAT
c M H E A L H N H Y T Q K S L S L S P G K -

AAGGTGGAGGTGGTGGTATCGAAGTCCGACTCTGCGTCAGTGGCTGGCTGCTCGTGCTT
721 -----+-----+-----+-----+-----+-----+-----+ 780
TTCCACCTCCACCACCATAGCTTCCAGGCTGAGACGCGAGTCACCGACCGACGAGCACGAA
c G G G G G I E G P T L R Q W L A A R A * -

BamHI
|
AATCTCGAGGATCC
781 -----+----- 794
TTAGAGCTCCTAGG

FIGURE 8

XbaI
|
1 TCTAGATTGTTTAACTAATTAAGGAGGAATAACATATGGACAAAACCTCACACATGTC 60
AGATCTAAACAAAATTGATTAATTCCTCCTTATTGTATACCTGTTTTGAGTGTGTACAG
M D K T H T C P -

61 CACCTTGTCAGCTCCGGAACCTCGGGGGACCGTCAGTCTTCCTCTTCCCCCAAAAC 120
GTGGAACAGGTCGAGGCCTTGAGGACCCCTGGCAGTCAGAAGGAGAAGGGGGTTTTG
P C P A P E L L G G P S V F L F P P K P -

121 CCAAGGACACCCCTCATGATCTCCCGACCCCTGAGGTACATGCGTGGTGGTGGACGTGA 180
GGTTCTGTGGGAGTACTAGAGGCCTGGGGACTCCAGTGTACGCACCACCACCTGCACT
K D T L M I S R T P E V T C V V V D V S -

181 GGCACGAAGACCCCTGAGGTCAAGTCAACTGGTACGTGGACGCGTGGAGGTGCATAATG 240
CGGTGCTTCTGGGACTCCAGTTCAAGTTGACCATGCACCTGCCGCACCTCCACGTATTAC
H E D P E V K F N W Y V D G V E V H N A -

241 CCAAGACAAAGCCGCGGAGGAGCAGTACAACAGCAGTACCGTGTGGTCAGCGTCTCTCA 300
GGTTCTGTTTCGGCGCCCTCCTCGTCATGTTGTCGTGCATGGCACACCAGTCGGAGGAGT
K T K P R E E Q Y N S T Y R V V S V L T -

301 CCCTCCTGCACCAGGACTGGCTGAATGGCAAGGAGTACAAGTGCAAGGTCTCCAACAAAG 360
GGCAGGACGTGGTCTGACCGACTTACCGTTCCTCATGTTACGTTCCAGAGGTGTTTTT
V L H Q D W L N G K E Y K C K V S N K A -

361 CCCTCCCAGCCCCATCGAGAAAACCATCTCAAAGCCAAAGGGCAGCCCCGAGAACCAC 420
GGGAGGGTCGGGGGTAGCTCTTTTGGTAGAGGTTTCGGTTTCCCGTCGGGGCTCTTGGTG
L P A P I E K T I S K A K G Q P R E P Q -

421 AGGTGTACACCCTGCCCCCATCCCGGATGAGCTGACCAAGAACCAGGTACGCTGACCT 480
TCACATATGGGACGGGGGTAGGGCCCTACTCGACTGGTTCTTGGTCCAGTCGGACTGGA
V Y T L P P S R D E L T K N Q V S L T C -

481 GCCTGGTCAAAGGCTTCTATCCCAGCGACATCGCCGTGGAGTGGGAGAGCAATGGGCAGC 540
CGGACCAAGTTTCCGAAGATAGGGTCGCTGTAGCGGCACCTCACCTCTCGTTACCCGTCG
L V K G F Y P S D I A V E W E S N G Q P -

541 CGGAGAACAACATAAGACCACGCCTCCCGTGTGGACTCCGACGGCTCCTTCTCTCTCT 600
GCCTCTTGTGATGTTCTGGTGGGAGGGCAGCACCTGAGGCTGCCGAGGAAGAAGGAGA
E N N Y K T T P V L D S D G S F F L Y -

601 ACAGCAAGCTCACCGTGGACAAGAGCAGGTGGCAGCAGGGGAACGTCTTCTCATGCTCCG 660
TGTCGTTTCGAGTGGCACCTGTTCTCGTCCACCGTCGTCCCTTGCAGAAGAGTACGAGGC
S K L T V D K S R W Q Q G N V F S C S V -

661 TGATGCATGAGGCTCTGCACAACCACTACACGCAGAAGAGCCTCTCCCTGTCTCCGGGTA 720
ACTACGTACTCCGAGACGTGTTGGTGTGTGCGTCTTCTCGGAGAGGGACAGAGGCCCAT
M H E A L H N H Y T Q K S L S L S P G K -

721 AAGGTGGAGGTGGTGGTATCGAAGGTCCGACTCTGCGTCAGTGGCTGGCTGCTCGTGCTG 780
TTCCACCTCCACCACCATAGCTTCCAGGCTGAGACGCAGTCACCGACCGACGAGCAGCAG
G G G G G I E G P T L R Q W L A A R A G -

781 GTGGTGGAGGTGGCGGGGAGGTATTGAGGGCCCAACCCCTTCGCCAATGGCTTGACGAC 840
CACCACTCCACCGCCGCTCCATAACTCCCGGTTGGGAAGCGGTTACCGAAGCTCGTG
G G G G G G I E G P T L R Q W L A A R -

BamHI
|
841 GCGCATAATCTCGAGGATCCG 861
CGCGTATTAGAGCTCCTAGGC
C A * -

FIGURE 9

XbaI
|
1 TCTAGATTGTTTTAACTAATTAAGGAGGAATAACATATGATCGAAGGTCCGACTCTGC 60
-----+-----+-----+-----+-----+
AGATCTAAACAAAATTGATTAATTCCTCCTTATTGTATACCTAGCTTCCAGGCTGAGACG
M I E G P T L R -

c

61 GTCAGTGGCTGGCTGCTCGTGCTGGCGGTGGTGGCGGAGGGGGTGGCATTGAGGGCCCAA 120
-----+-----+-----+-----+-----+
CAGTCACCGACCGACGAGCAGCACCACCACCGCCTCCCCACCGTAACCTCCCGGGTT
Q W L A A R A G G G G G G G G I E G P T -

c

121 CCCTTCGCCAATGGCTTGCGAGCAGCGCAGGGGGAGGCGGTGGGGACAAAACCTCACACAT 180
-----+-----+-----+-----+-----+
GGGAAGCGGTTACCGAACGTCGTGCGCGTCCCTCCGCCACCCCTGTTTGTAGTGTGTA
L R Q W L A A R A G G G G G G D K T H T C -

c

181 GTCCACCTTGCCCCAGCACCTGAACCTCTGGGGGACCGTCAGTTTTCTCTTCCCCCAA 240
-----+-----+-----+-----+-----+
CAGGTGGAACGGGTTCGTGACTTGAGGACCCCTCGCAGTCAAAGGAGAAGGGGGTT
P P C P A P E L L G G P S V F L F P P K -

c

241 AACCCAAGGACACCCTCATGATCTCCCGGACCCCTGAGGTCACATGCGTGGTGGTGGACG 300
-----+-----+-----+-----+-----+
TTGGGTTCTGTGGGAGTACTAGAGGGCCTGGGGACTCCAGTGTACGACACCACCTGC
P K D T L M I S R T P E V T C V V V D V -

c

301 TGAGCCACGAAGACCCTGAGGTCAAGTTCAACTGGTACGTGGACGGCGTGGAGGTGCATA 360
-----+-----+-----+-----+-----+
ACTCGGTGCTTCTGGGACTCCAGTTCAAGTTGACCATGCACCTGCCGACCTCCACGTAT
S H E D P E V K F N W Y V D G V E V H N -

c

361 ATGCCAAGACAAAGCCGCGGAGGAGCAGTACAACAGCACGTACCGTGTGGTCAGCGTCC 420
-----+-----+-----+-----+-----+
TACGGTTCTGTTTCGGCGCCCTCCTCGTCATGTTGTCGTGCATGGCACACCAGTCGCAGG
A K T K P R E E Q Y N S T Y R V V S V L -

c

421 TCACCGTCTGCACCAGGACTGGCTGAATGGCAAGGAGTACAAGTGCAAGGTCTCCAACA 480
-----+-----+-----+-----+-----+
AGTGGCAGGACGTGGTCTGACCGACTTACCGTTCCCTCATGTTACAGTCCAGAGGTTGT
T V L H Q D W L N G K E Y K C K V S N K -

c

481 AAGCCCTCCCAGCCCCATCGAGAAAACCATCTCCAAGCCAAAGGGCAGCCCCGAGAAC 540
-----+-----+-----+-----+-----+
TTCGGGAGGGTCGGGGTAGCTCTTTGTGAGAGGTTTCGGTTTCCCGTCGGGGCTCTTG
A L P A P I E K T I S K A K G Q P R E P -

c

541 CACAGGTGTACACCTGCCCCATCCCGGGATGAGCTGACCAAGAACCAGGTACAGCTGA 600
-----+-----+-----+-----+-----+
GTGTCCACATGTGGGACGGGGGTAGGGCCCTACTCGACTGGTTCTTGGTCCAGTCGGACT
Q V Y T L P P S R D E L T K N Q V S L T -

c

601 CCTGCCTGGTCAAAGGCTTCTATCCAGCGACATCGCCGTGGAGTGGGAGAGCAATGGGC 660
-----+-----+-----+-----+-----+
GGACGGACCAAGTTTCCGAAGATAGGTCGCTGTAGCGGCACCTCACCTCTCGTTACCCG
C L V K G F Y P S D I A V E W E S N G Q -

c

661 AGCCGGAGAACAATAACAAGACCACGCTCCCGTGTGGACTCCGACGGCTCCTTCTTCC 720
-----+-----+-----+-----+-----+
TCGGCTCTTGTGATGTTCTGGTGGGAGGGCAGACCTGAGGCTGCCGAGGAAGAAGG
P E N N Y K T T P P V L D S D G S F F L -

c

721 TCTACAGCAAGCTACCGTGGACAAGAGCAGGTGGCAGCAGGGAACGTCTTCTCATGCT 780
-----+-----+-----+-----+-----+
AGATGTCGTTTCAGTGGCACCTGTTCTCGTCCACCGTCGTCCCTTGCAGAAGAGTACGA
Y S K L T V D K S R W Q Q G N V F S C S -

c

781 CCGTGATGCATGAGGCTCTGCACAACCACTACACGAGAAGAGCCTCTCCCTGTCTCCGG 840
-----+-----+-----+-----+-----+
GGCACTACTACTCCGAGACGTGTTGGTGATGTGCGTCTTCTCGGAGAGGGACAGAGGCC
V M H E A L H N H Y T Q K S L S L S P G -

c

BamHI
|
841 GTAAATAATGGATCC 855
-----+-----
CATTTATTACCTAGG
K *

FIGURE 10

XbaI
|

1 TCTAGATTGTTTTAACTAATTAAAGGAGGAATAACATATGATCGAAGGTCCGACTCTGC 60
-----+-----+-----+-----+-----+-----+
AGATCTAAACAAAATTGATTAATTCCTCCTTATTGTATACTAGCTTCCAGGCTGAGACG
M I E G P T L R -

61 GTCAGTGGCTGGCTGCTCGTGCTGGTGGAGGCGGTGGGGACAAAACACACATGTCCAC 120
-----+-----+-----+-----+-----+-----+
CAGTCACCGACCGACGAGCAGCAGCACCTCCGCCACCCCTGTTTTGAGTGTGTACAGGTG
Q W L A A R A G G G G G D K T H T C P P -

121 CTGCCCCAGCACCTGAACCTCTGGGGGACCGTCAGTTTTCTCTTCCCCCAAAACCCA 180
-----+-----+-----+-----+-----+-----+
GAACGGGTCGTGGACTTGAGGACCCCTGGCAGTCAAAGGAGAAGGGGGTTTGGGT
C P A P E L L G G P S V F L F P P K P K -

181 AGGACACCCCTCATGATCTCCCGGACCCCTGAGGTACATGCGTGGTGGTGGACGTGAGCC 240
-----+-----+-----+-----+-----+-----+
TCCTGTGGGAGTACTAGAGGGCTGGGACTCCAGTGTACGCACCACCTGCACTCGG
D T L M I S R T P E V T C V V V D V S H -

241 ACGAAGACCCTGAGGTCAAGTTCAACTGGTACGTGGACGGCGTGGAGGTGCATAATGCCA 300
-----+-----+-----+-----+-----+-----+
TGCTTCTGGGACTCCAGTTCAAGTTGACCATGCACCTGCCGCACCTCCACGTATTACGGT
E D P E V K F N W Y V D G V E V H N A K -

301 AGACAAAGCCGCGGGAGGAGCAGTACAACAGCACGTACCGTGTGGTCAGCGTCTCACCAG 360
-----+-----+-----+-----+-----+-----+
TCTGTTTCGGCGCCCTCCTCGTCATGTTGTGCTGCATGGCACCAGTCGCAGGAGTGGC
T K P R E E Q Y N S T Y R V V S V L T V -

361 TCCTGCACCAGGACTGGCTGAATGGCAAGGAGTACAAGTGCAAGGTCTCCAACAAAGCCC 420
-----+-----+-----+-----+-----+-----+
AGGACGTGGTCTGTACCGACTTACCGTTCCTCATGTTACGTTCCAGAGGTGTTTCGGG
L H Q D W L N G K E Y K C K V S N K A L -

421 TCCCAGCCCCCATCGAGAAACCATCTCAAAGCCAAAGGGCAGCCCCGAGAACCACAGG 480
-----+-----+-----+-----+-----+-----+
AGGGTCGGGGTAGCTCTTTTGGTAGAGGTTTCGGTTTCCCGTCGGGGCTCTTGGTGTCC
P A P I E K T I S K A K G Q P R E P Q V -

481 TGTAACCCCTGCCCCATCCCGGATGAGCTGACCAAGAACCAGGTACGCTGACCTGCC 540
-----+-----+-----+-----+-----+-----+
ACATGTGGGACGGGGGTAGGGCCCTACTCGACTGGTTCTTGGTCCAGTCGGACTGGACGG
Y T L P P S R D E L T K N Q V S L T C L -

541 TGGTCAAAGGCTTCTATCCCAGCGACATCGCCGTGGAGTGGGAGAGCAATGGGCAGCCGG 600
-----+-----+-----+-----+-----+-----+
ACCAGTTTCCGAAGATAGGGTCGCTGTAGCGGCACCTCACCTCTCGTTACCCGTCGGCC
V K G F Y P S D I A V E W E S N G Q P E -

601 AGAACAACCTACAAGACCACGCTCCCGTGGTGGACTCCGACGGCTCCTTCTCTCTACA 660
-----+-----+-----+-----+-----+-----+
TCTTGTGATGTTCTGGTGGGAGGGCAGCAGCTGAGGCTGCCGAGGAAGAAGGAGATGT
N N Y K T T P P V L D S D G S F F L Y S -

661 GCAAGCTCACCGTGGACAAGAGCAGGTGGCAGCAGGGGAACGTCTTCTCATGCTCCGTGA 720
-----+-----+-----+-----+-----+-----+
CGTTCGAGTGGCAGCTGTCTCGTCCACCGTCGTCCCTTGCAGAAGAGTACGAGGCACT
K L T V D K S R W Q Q G N V F S C S V M -

721 TGCATGAGGCTCTGCACAACCACTACACGCAGAAGAGCCTCTCCCTGTCTCCGGGTAAAT 780
-----+-----+-----+-----+-----+-----+
ACGTACTCCGAGACGTGTTGGTGTATGCGTCTTCTCGGAGAGGGACAGAGGCCATTTA
H E A L H N H Y T Q K S L S L S P G K * -

BamHI
|
AATGGATCC
781 ----- 789
TTACCTAGG

FIGURE 11

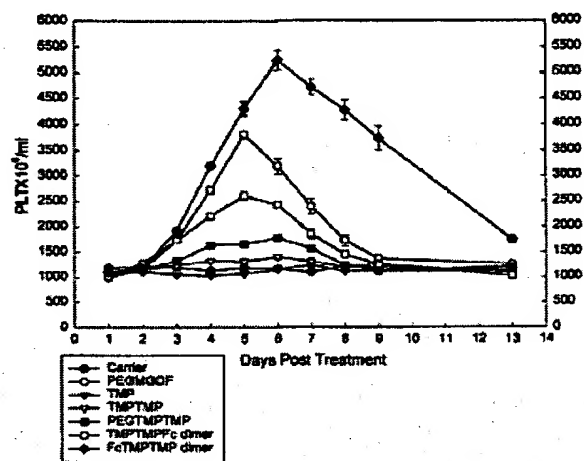


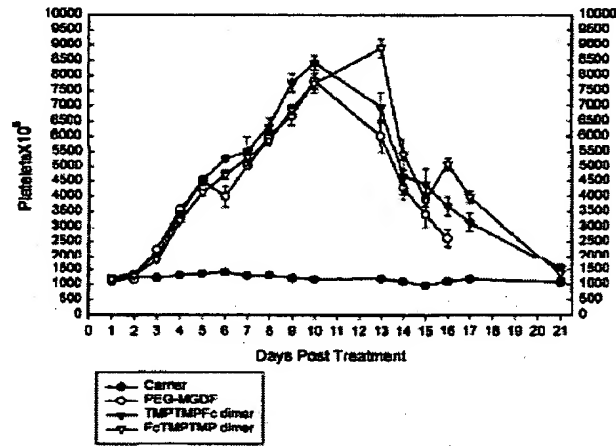
FIGURE 12

FIGURE 13

XbaI
|
TCTAGATTGTTTTTAACTAATTAAGGAGGAATAACATATGGACAAAACACACATGTC
1 -----+-----+-----+-----+-----+-----+-----+-----+ 60
AGATCTAAACAAAATTGATTAATTTCTCTCTTATTGTATACCTGTTTTGAGTGTGTACAG
c -----+-----+-----+-----+-----+-----+-----+-----+
CACCTTGTCAGCTCCGGAACTCCTGGGGGACCGTCAGTCTTCTCTTCCCCCAAAAC
61 -----+-----+-----+-----+-----+-----+-----+-----+ 120
GTGGAACAGGTCGAGGCCTTGAGGACCCCTGGCAGTCAGAAGGAGAAGGGGGTTTTG
c -----+-----+-----+-----+-----+-----+-----+-----+
P C P A P E L L G G P S V F L F P P K P -
CCAAGGACACCCCTCATGATCTCCCGACCCCTGAGGTCACATGCGTGGTGGTGGACGTGA
121 -----+-----+-----+-----+-----+-----+-----+-----+ 180
GGTTCCTGTGGAGTACTAGAGGCCTGGGGACTCCAGTGTACGCACCACCACCTGCACT
c -----+-----+-----+-----+-----+-----+-----+-----+
K D T L M I S R T P E V T C V V V D V S -
GCCACGAAGACCCCTGAGGTCAAGTTCAACTGGTACGTGGACGGCGTGGAGGTGCATAATG
181 -----+-----+-----+-----+-----+-----+-----+-----+ 240
CGGTGCTTCTGGGACTCCAGTTCAAGTTGACCATGCACCTGCCGCACCTCCACGTATTAC
c -----+-----+-----+-----+-----+-----+-----+-----+
H E D P E V K F N W Y V D G V E V H N A -
CCAAGACAAAGCCCGGGAGGAGCAGTACAACAGCAGTACCGTGTGGTCAGCGTCCTCA
241 -----+-----+-----+-----+-----+-----+-----+-----+ 300
GGTTCTGTTTCGGCGCCCTCCTCGTCATGTTGTCTGTCATGGCACACCAGTCGAGGAGT
c -----+-----+-----+-----+-----+-----+-----+-----+
K T K P R E E Q Y N S T Y R V V S V L T -
CCGTCTGCACCAAGGACTGGCTGAATGGCAAGGAGTACAAGTGCAAGGTCTCCAACAAAG
301 -----+-----+-----+-----+-----+-----+-----+-----+ 360
GGCAGGACGTGGTCTGACCGACTTACCGTTCCTCATGTTACGTTCCAGAGGTGTTTC
c -----+-----+-----+-----+-----+-----+-----+-----+
V L H Q D W L N G K E Y K C K V S N K A -
CCCTCCCAGCCCCATCGAGAAAACCATCTCCAAGCCAAAGGGCAGCCCCGAGAACCAC
361 -----+-----+-----+-----+-----+-----+-----+-----+ 420
GGGAGGGTTCGGGGTAGCTCTTTTGGTAGAGGTTTCGGTTTCCCGTCGGGGCTTTGGTG
c -----+-----+-----+-----+-----+-----+-----+-----+
L P A P I E K T I S K A K G Q P R E P Q -
AGGTGTACACCTGCCCCATCCCGGATGAGCTGACCAAGAACCAGGTCAGCCTGACCT
421 -----+-----+-----+-----+-----+-----+-----+-----+ 480
TCCACATGTGGGACGGGGTAGGGCCCTACTCGACTGGTCTTGGTCCAGTCGACTGGA
c -----+-----+-----+-----+-----+-----+-----+-----+
V Y T L P P S R D E L T K N Q V S L T C -
GCCTGGTCAAAGGCTTCTATCCCAGCGACATCGCCGTGGAGTGGGAGAGCAATGGGCAGC
481 -----+-----+-----+-----+-----+-----+-----+-----+ 540
CGGACCAGTTTCCGAAGATAGGGTCGCTGTAGCGGCACCTCACCTCTCGTTACCCGTCG
c -----+-----+-----+-----+-----+-----+-----+-----+
L V K G F Y P S D I A V E W E S N G Q P -
CGGAGAACAACTACAAGACCACGCCTCCCGTGTGGACTCCGACGGCTCCTTCTCCTCT
541 -----+-----+-----+-----+-----+-----+-----+-----+ 600
GCCTCTTGTGATGTTCTGGTGGGAGGGCACGACCTGAGGCTGCCGAGGAAGAAGGAGA
c -----+-----+-----+-----+-----+-----+-----+-----+
E N N Y K T T P P V L D S D G S F F L Y -
ACAGCAAGCTCACCGTGGACAAGAGCAGGTGGCAGCAGGGGAACGTCTTCTCATGCTCCG
601 -----+-----+-----+-----+-----+-----+-----+-----+ 660
TGTCGTTTCGAGTGGCACCTGTTCTCGTCCACCGTCGTCCTTGCAGAAGAGTACGAGGC
c -----+-----+-----+-----+-----+-----+-----+-----+
S K L T V D K S R W Q Q G N V F S C S V -
TGATGCATGAGGCTCTGCACAACCACTACACGCAGAAGAGCCTCTCCCTGTCTCCGGTA
661 -----+-----+-----+-----+-----+-----+-----+-----+ 720
ACTACGTACTCCGAGACGTGTTGGTGTGTCGCTCTTCTCGAGAGGGACAGAGGCCCAT
c -----+-----+-----+-----+-----+-----+-----+-----+
M H E A L H N H Y T Q K S L S L S P G K -
AAGGTGGAGGTGGTGGTGGAGTACTTACTCTTGCCACTTCGCCCGCTGACTTGGGTTT
721 -----+-----+-----+-----+-----+-----+-----+-----+ 780
TTCCACCTCCACCACCTCCATGAATGAGAACGGTGAAGCCGGGCGACTGAACCCAAA
c -----+-----+-----+-----+-----+-----+-----+-----+
G G G G G G G T Y S C H F G P L T W V C -
BamHI
|
GCAAACCGCAGGGTGGTTAATCTCGTGGATCC
781 -----+-----+-----+-----+-----+-----+-----+-----+ 812
CGTTTGGCGTCCCACCAATTAGAGCACCTAGG
c -----+-----+-----+-----+-----+-----+-----+-----+
K P Q G G *

BamHI

[illegible]

FIGURE 15

	XbaI	
1	TCTAGATTGAGTTTAACTTTTAGAAGGAGGAATAAAATATGGGAGGTACTTACTCTTG	60
b	AGATCTAAACTCAAATGAAAATCTTCCTCCTATTTTATACCCCTCCATGAATGAGAAC	
		M G G T Y S C -
61	CCACTTCGGCCCACTGACTTGGGTTTGCAAACCGCAGGGTGGCGGCGGCGGCGGCGGTGG	120
b	GGTGAAGCCGGGTGACTGAACCCAAACGTTTGGCGTCCCACCGCCGCCCGCCGCCACC	
		H F G P L T W V C K P Q G G G G G G G G -
121	TACCTATTCTGTCTATTTTGGCCCGCTGACCTGGGTATGTAAGCCACAAGGGGTGGGGG	180
b	ATGGATAAGGACAGTAAAACCGGGGCTGGACCCATACATTCGGTGTTCCTCCACCCCC	
		T Y S C H F G P L T W V C K P Q G G G -
181	AGGCGGGGGGACAAAACCTCACACATGTCCACCTTGCCCAGCACCTGAACTCCTGGGGGG	240
b	TCCGCCCCCCTGTTTGAGTGTGTACAGGTGGAACGGGTCTGGACTTGAGGACCCCC	
		G G G D K T H T C P P C P A P E L L G G -
241	ACCGTCAGTTTCTCTTCCCCCAAACCAAGGACACCTCATGATCTCCCGGACCCC	300
b	TGGCAGTCAAAGGAGAAGGGGGTTTGGGTTCCTGTGGGAGTACTAGAGGGCTGGGG	
		P S V F L F P P K P K D T L M I S R T P -
301	TGAGGTCACATGCGTGGTGGTGGACGTGAGCCACGAAGACCCTGAGGTCAAGTCAACTG	360
b	ACTCCAGTGTACGACACCACCTGCACTCGGTGCTTCTGGGACTCCAGTTCAAGTTGAC	
		E V T C V V V D V S H E D P E V K F N W -
361	GTACGTGGACGGCGTGGAGGTGCATAATGCCAAGACAAAGCCGCGGGAGGAGCAGTACAA	420
b	CATGCACCTGCCGACCTCCACGTATTACGGTTCTGTTTCGGCGCCCTCCTCGTCATGTT	
		Y V D G V E V H N A K T K P R E E Q Y N -
421	CAGCACGTACCGTGTGGTCAGCGTCTCACCCTGCTGACACAGGACTGGCTGAATGGCAA	480
b	GTCTGTCATGGGACACACAGTGCAGGAGTGGCAGGACGTGGTCTGACCGACTTACCGTT	
		S T Y R V V S V L T V L H Q D W L N G K -
481	GGAGTACAAGTGAAGGTCTCCAACAAGCCCTCCAGCCCCATCGAGAAAACCATCTC	540
b	CCTCATGTTCCAGTTCAGAGGTTGTTTCGGGAGGGTGGGGGTAGCTCTTTTGGTAGAG	
		E Y K C K V S N K A L P A P I E K T I S -
541	CAAAGCCAAAGGGCAGCCCCGAGAACACAGGTGTACACCCTGCCCCATCCCGGGATGA	600
b	GTTCGGTTTCCCTCGGGGCTCTTGGTGTCCACATGTGGGACGGGGTAGGGCCTACT	
		K A K G Q P R E P Q V Y T L P P S R D E -
601	GCTGACCAAGAACCAGGTGACCTGACCTGCCTGGTCAAAGGCTTCTATCCCAGCGACAT	660
b	CGACTGGTCTTGGTCCAGTCCGACTGGACGGACAGTTTCCGAAGATAGGGTCGCTGTA	
		L T K N Q V S L T C L V K G F Y P S D I -
661	CGCGTGGAGTGGGAGAGCAATGGGCAGCCGAGAACAACTACAAGACCACGCCTCCCGT	720
b	GCGGCACCTCACCTCTCGTTACCCGTCGGCCTCTTGTGATGTTCTGGTGGGAGGGCA	
		A V E W E S N G Q P E N N Y K T T P P V -
721	GCTGGACTCCGACGGCTCCTTCTCTCTACAGCAAGCTCACCGTGGACAAGAGCAGGTG	780
b	CGACCTGAGGCTGCCGAGGAAGAAGGAGATGTCGTTGAGTGGACCTGTTCTCGTCCAC	
		L D S D G S F F L Y S K L T V D K S R W -
781	GCAGCAGGGGAACGTCTTCTCATGTCCGTGATGCATGAGGCTCTGCACAACCACTACAC	840
b	CGTCGTCCCCTTGAGAAGAGTACGAGGCACTACGTACTCCGAGACGTGTTGGTGATGTG	
		Q Q G N V F S C S V M H E A L H N H Y T -
	BamHI	
841	GCAGAAGAGCCTCTCCCTGTCTCCGGTAAATAATGGATCC	881
b	CGTCTTCTCGGAGGGGACAGAGGCCATTTATTACCTAGG	
		Q K S L S L S P G K *

FIGURE 16

XbaI
|
TCTAGATTGTTTTAACTAATTAAGGAGGAATAACATATGGACAAAACCTCACACATGTC
1 -----+-----+-----+-----+-----+-----+-----+ 60
AGATCTAAACAAAATTGATTAATTTCTCTTATTGTATACCTGTTTTGAGTGTGTACAG
c M D K T H T C P -

CACCTTGCCAGCACCTGAACTCCTGGGGGACCGTCAGTTTTCTCTTCCCCCAAAAC
61 -----+-----+-----+-----+-----+-----+-----+ 120
GTGGAACGGGTCGTGGACTTGAGGACCCCTGGCAGTCAAAGGAGAAGGGGGTTTTG
c P C P A P E L L G G P S V F L F P P K P -

CCAAGGACACCCTCATGATCTCCCGGACCCCTGAGGTACATGCGTGGTGGTGGACGTGA
121 -----+-----+-----+-----+-----+-----+-----+ 180
GGTTCTGTGGGAGTACTAGAGGGCTGGGGACTCCAGTGTACGCACCACCACCTGCACCT
c K D T L M I S R T P E V T C V V V D V S -

GCCACGAAGACCCTGAGGTCAAGTTCAACTGGTACGTGGACGGCGTGGAGGTGCATAATG
181 -----+-----+-----+-----+-----+-----+-----+ 240
CGGTGCTTCTGGGACTCCAGTTCAAGTTGACCATGCACCTGCCGCACCTCCACGTATTAC
c H E D P E V K F N W Y V D G V E V H N A -

CCAAGACAAAGCCGCGGGAGGAGCAGTACAACAGCACGTACCGTGTGGTCAGCGTCTCA
241 -----+-----+-----+-----+-----+-----+-----+ 300
GGTTCTGTTTCGGGCGCCCTCTCGTCATGTTGTCGTGCATGGCACACCAGTCCGAGGAGT
c K T K P R E E Q Y N S T Y R V V S V L T -

CCGTCTGCACCAGGACTGGCTGAATGGCAAGGAGTACAAGTCAAGGTCTCCAACAAAG
301 -----+-----+-----+-----+-----+-----+-----+ 360
GGCAGGACGTGGTCTGACCGACTTACCGTTCTCATGTTACGTTCCAGAGGTGTTTC
c V L H Q D W L N G K E Y K C K V S N K A -

CCCTCCCAGCCCCATCGAGAAAACCATCTCCAAAGCAAAGGGCAGCCCCGAGAACCAC
361 -----+-----+-----+-----+-----+-----+-----+ 420
GGGAGGGTGGGGGTAGCTCTTTTGGTAGAGTTTCGTTTCCCGTCGGGGCTCTTGGTG
c L P A P I E K T I S K A K G Q P R E P Q -

AGGTGTACACCCTGCCTCCATCCCGGGATGAGCTGACCAAGAACCAGGTCAGCCTGACCT
421 -----+-----+-----+-----+-----+-----+-----+ 480
TCCACATTTGGGACGGAGGTAGGGCCCTACTCGACTGGTTCTTGGTCCAGTCGACTGGA
c V Y T L P P S R D E L T K N Q V S L T C -

GCCTGGTCAAAGGCTTCTATCCCAGCGACATCGCCGTGGAGTGGGAGAGCAATGGGCAGC
481 -----+-----+-----+-----+-----+-----+-----+ 540
CGGACCAGTTTCCGAAGATAGGGTCGCTGTAGCGGCACCTCACCTCTCGTTACCCGTCG
c L V K G F Y P S D I A V E W E S N G Q P -

CGGAGAACAACATAAGACCACGCCTCCCGTGTGGACTCCGACGGCTCTTCTTCTCTCT
541 -----+-----+-----+-----+-----+-----+-----+ 600
GCCTCTTGTGATGTTCTGTTGGTGGGAGGGCAGGACCTGAGGCTGCCGAGGAAGAAGGAGA
c E N N Y K T T P V L D S D G S F F L Y -

ACAGCAAGCTCACCGTGGACAAGAGCAGGTGGCAGCAGGGGAACGTCTTCTCATGCTCCG
601 -----+-----+-----+-----+-----+-----+-----+ 660
TGTCGTTTCGAGTGGCACCTGTTCTCGTCCACCGTCGTCCCTTGCAGAAGAGTACGAGGC
c S K L T V D K S R W Q Q G N V F S C S V -

TGATGCATGAGGCTCTGCACAACCACTACACGAGAAGAGCCTCTCCCTGTCTCCGGGTA
661 -----+-----+-----+-----+-----+-----+-----+ 720
ACTACGTACTCCGAGACGTGTTGGTGTATGTGCGTCTTCTCGGAGAGGGACAGAGGCCAT
c M H E A L H N H Y T Q K S L S L S P G K -

AAGGTGGAGGTGGTGGCGGAGGTACTTACTCTTGCCACTTCGCCCCACTGACTTGGGTTT
721 -----+-----+-----+-----+-----+-----+-----+ 780
TTCCACCTCCACCACCGCTCCATGAATGAGAACGGTGAAGCCGGGTGACTGAACCCAAA
c G G G G G G G T Y S C H F G P L T W V C -

GCAAACCGCAGGGTGGCGGGCGGGCGGGGGTGGTACCTATTCTGTCAATTTGGCCCCG
781 -----+-----+-----+-----+-----+-----+-----+ 840
CGTTTGGCGTCCCACCGCCGCGCCGCGCCACCATGGATAAGGACAGTAAAAACCGGGCG
c K P Q G G G G G G G T Y S C H F G P L -

BamHI
|
TGACCTGGGTATGTAAGCCACAAGGGGGTTAATCTCGAGGATCC
841 -----+-----+-----+-----+-----+-----+-----+ 884
ACTGGACCATACATTCCGGTGTCCCCCAATTAGAGCTCCTAGG
c T W V C K P Q G G *

FIGURE 17A

[AatII sticky end] 5' GCGTAACGTATGCATGGTCTCC-
(position #4358 in pAMG21) 3' TGCACGCATTGCATACGTACCAGAGG-

-CCATGCGAGAGTAGGGAAGTCCAGGCATCAAATAAAACGAAAGGCTCAGTCGAAAGACT-
-GGTACGCTCTCATCCCTTGACGGTCCGTAGTTTATTTTGCTTCCGAGTCAGCTTCTGA-

-GGGCCTTTTCGTTTATCTGTTGTTTGTGCGGTGAACGCTCTCCTGAGTAGGACAAATCCGC-
-CCCGGAAAGCAAATAGACAACAAACAGCCACTTGCGAGAGGACTCATCCTGTTAGGCG-

-CGGGAGCGGATTTGAACGTTGCGAAGCAACGGCCCGGAGGGTGGCGGGCAGGACGCCCCG-
-GCCCTCGCCTAAACTTGCAACGCTTCGTTGCCGGGCCCTCCACCGCCCGTCTCGGGGCG-

-CATAAACTGCCAGGCATCAAATTAAGCAGAAGGCCATCTGACGGATGGCCTTTTTCGCGT-
-GTATTTGACGGTCCGTAGTTTAATTCGCTCTCCGGTAGGACTGCCTACCGGAAAAACGCA-

AatII
-TTCTACAACTCTTTTGTATTATTTTCTAAATACATTCAAATATGGACGTCGTACTTAAC-
-AAGATGTTTGAGAAAACAAATAAAAAAGATTTATGTAAGTTTATACCTGCAGCATGAATTG-

-TTTTAAAGTATGGGCAATCAATTGCTCCTGTTAAATGCTTTAGAAATACTTTGGCAGC-
-AAAATTTTCATACCCGTTAGTTAACGAGGACAATTTTAACGAAATCTTTATGAAACCGTCG-

-GGTTTGTGTATTGAGTTTCATTTGCGCATTGGTTAAATGGAAAGTGACCGTGCGCTTAC-
-CCAAACAACATAACTCAAAGTAAACGCGTAACCAATTTACCTTTCACTGGCACGCGAATG-

-TACAGCCTAATATTTTGAATATCCCAAGAGCTTTTTCCTTCGCATGCCACGCTAAAC-
-ATGTCGGATTATAAAAACTTTATAGGGTCTCGAAAAAGGAAGCGTACGGGTGCGATTG-

-ATTCTTTTTCTCTTTTGGTTAAATCGTTGTTTGAATTTATTTTGTATATTTATTTTTC-
-TAAGAAAAAGAGAAAACCAATTTAGCAACAACTAAATAATAAACGATATAAATAAAAAAG-

-GATAATTATCAACTAGAGAAGGAACAATTAATGGTATGTTTCATACACGCATGTAATAATA-
-CTATTAATAGTTGATCTCTTCCTTGTTAATTACCATAACAAGTATGTGCGTACATTTTAT-

-AACTATCTATATAGTTGTCTTTCTCTGAATGTGCAAACTAAGCATTCCGAAGCCATTAT-
-TTGATAGATATATCAACAGAAAGAGACTTACACGTTTGTGATTGTAAGGCTTCGGTAATA-

-TAGCAGTATGAATAGGGAACTAAACCCAGTGATAAGACCTGATGATTTTCGCTTCTTTAA-
-ATCGTCATACCTATCCCTTTGATTTGGGTCACCTATTCTGGACTACTAAAGCGAAGAAATT-

-TTACATTTGGAGATTTTTTATTTACAGCATTGTTTTCAAATATATTCCAATTAATCGGTG-
-AATGTAAACCTCTAAAAATAAATGTCGTAACAAAAGTTTATATAAGGTTAATTAGCCAC-

-AATGATTGGAGTTAGAATAATCTACTATAGGATCATATTTTATTAAATTAGCGTCATCAT-
-TTACTAACCTCAATCTTATTAGATGATATCCTAGTATAAAATAATTTAATCGCAGTAGTA-

-AATATTGCCTCCATTTTTTAGGGTAATTATCCAGAATTGAAATATCAGATTTAACCATAG-
-TTATAACGGAGGTAAAAATCCCATTAATAGGTCTTAACCTTATAGTCTAAATTGGTATC-

-AATGAGGATAAATGATCGCGAGTAAATAATATTACAATGTACCATTTTAGTCATATCAG-
-TTACTCCTATTTACTAGCGCTCATTATATAAGTGTACATGGTAAATCAGTATAGTC-

-ATAAGCATTGATTAATATCATTATTGCTTCTACAGGCTTTAATTTTATTAATTATTCTGT-
-TATTCGTAACCTAATTATAGTAATAACGAAGATGTCCGAAATTAATAAATTAATAAGACA-

-AAGTGTGTCGGCATTTATGTCTTTCATACCCATCTCTTTATCCTTACCTATTGTTTGTG-
-TTCACAGCAGCCGTAAATACAGAAAGTATGGGTAGAGAAATAGGAATGGATAACAAACAG-

-GCAAGTTTTGCGTGTTATATATCATTTAAACGGTAATAGATTGACATTTGATTCTAATAA-
-CGTTCAAACGCACAATATATAGTAATTTTGCCATTATCTAACTGTAACTAAGATTATT-

FIGURE 17B

- ATTGGATTTTTGTCACACTATTATATCGCTTGAAATACAATTGTTTAACATAAGTACCTG -
- TAACCTAAAAACAGTGTGATAATATAGCGAACTTTATGTTAACAAATTGTATTCATGGAC -

- TAGGATCGTACAGGTTTACGCAAGAAAATGGTTTGTATAGTCGATTAATCGATTTGATT -
- ATCCTAGCATGTCCAAATGCGTTCTTTTACCAAACAATATCAGCTAATTAGCTAAACTAA -

- CTAGATTTGTTTTAACTAATTAAAGGAGGAATAACATATGGTTAACGCGTTGGAATTCTGA -
- GATCTAAACAAAATTGATTAATTTCTCTTATTGTATACCAATTGCGCAACCTTAAGCT -

- GCTCACTAGTGTGCGACCTGCAGGGTACCATGGAAGCTTACTCGAGGATCCGCGGAAAGAA -
- CGAGTGATCACAGCTGGACGTCCCATGGTACCTTCGAATGAGCTCCTAGGCGCCTTTCTT -

- GAAGAAGAAGAAGAAAGCCGAAAGGAAGCTGAGTTGGCTGCTGCCACCGCTGAGCAATA -
- CTTCTTCTTCTTCTTTTCGGGCTTTCTTCGACTCAACCGACGACGGTGGCGACTCGTTAT -

- ACTAGCATAACCCCTTGGGGCCTCTAAACGGGTCTTGAGGGGTTTTTTTGCTGAAAGGAGG -
- TGATCGTATTGGGGAACCCCGGAGATTGCCCAGAACTCCCCAAAAACGACTTTCCTCC -

- AACCGCTCTTCACGCTCTTCACGC 3' [SacII sticky end]
- TTGGCGAGAAGTGCGAGAAGTG 5' (position #5904 in pAMG21)

FIGURE 18

Erythroid parameters EMP-Fc, single bolus injection.

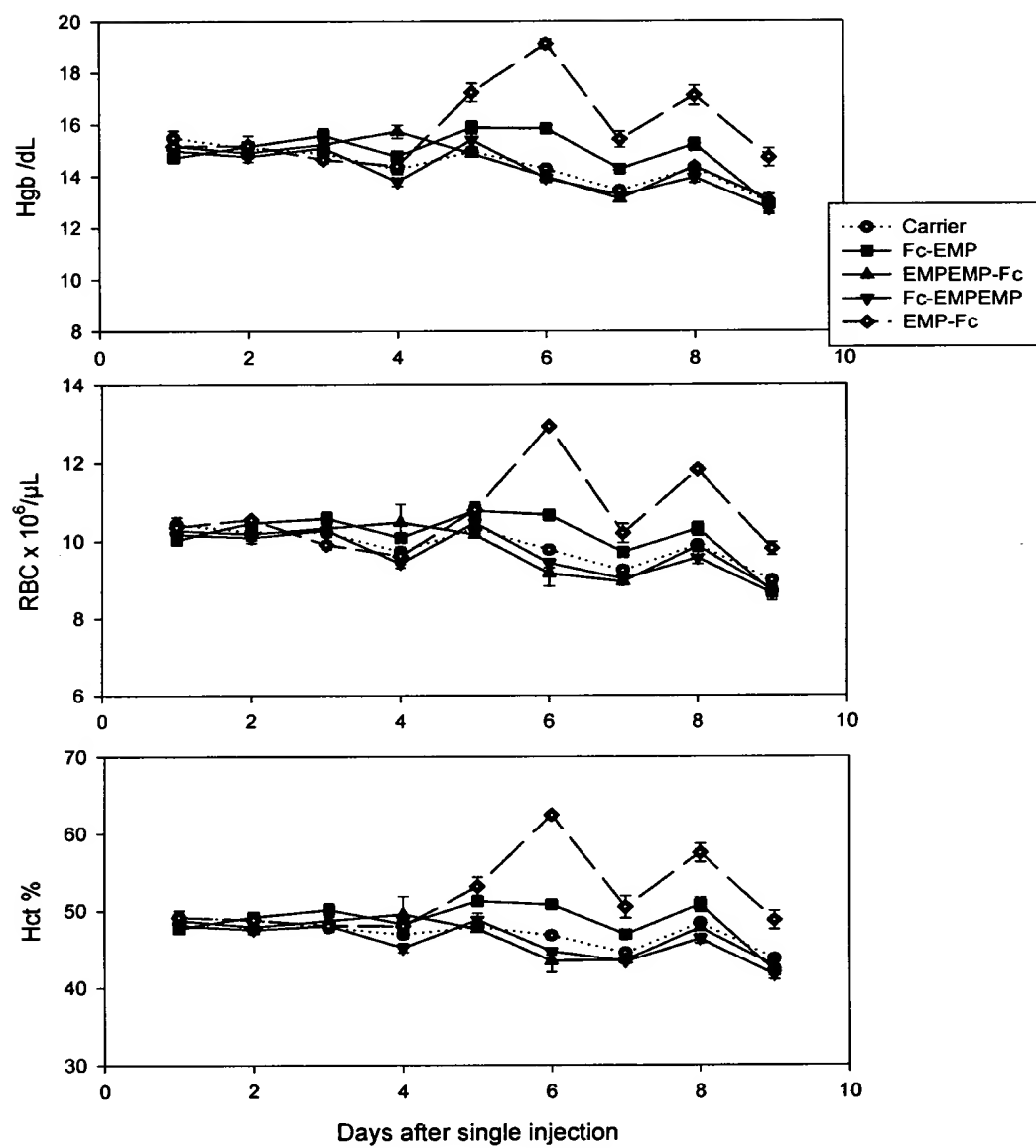


FIGURE 19

Normal female BDF1 mice treated with 100ug/kg EMP-Fc
in 7-day micro osmotic pumps

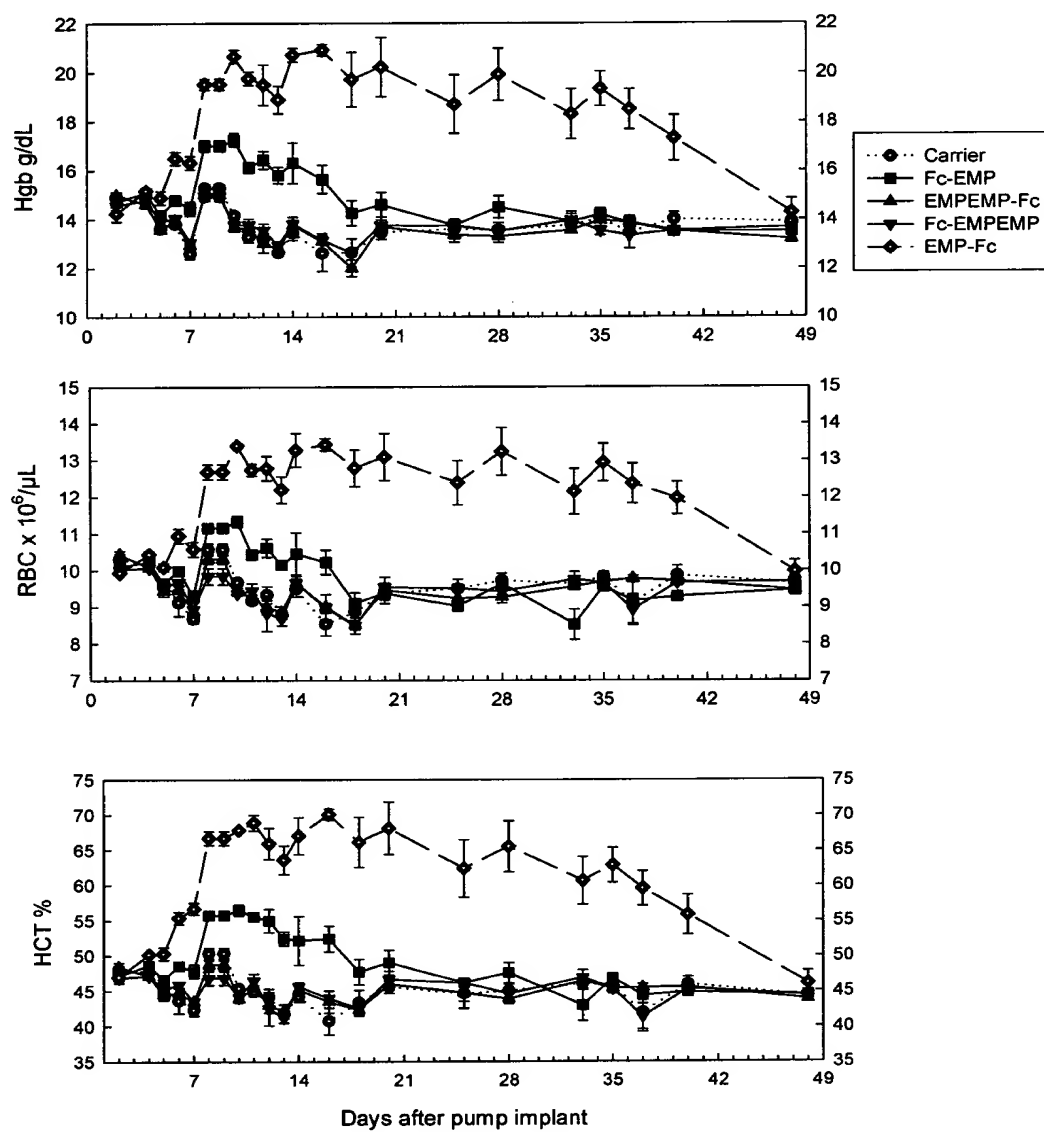


FIGURE 19A

NdeI
|
1 CATATGGACAAAACCTCACACATGTCCACCTTGTCCAGCTCCGGAACCTCTGGGGGGACCG 60
-----+-----+-----+-----+-----+-----+
GTATACCTGTTTTGAGTGTGTACAGGTGGAACAGGTCGAGGCCTTGAGGACCCCCCTGGC
a M D K T H T C P P C P A P E L L G G P -
61 TCAGTCTTCCTCTTCCCCCAAAACCCAAGGACACCCTCATGATCTCCCGGACCCCTGAG 120
-----+-----+-----+-----+-----+-----+
AGTCAGAAGGAGAAGGGGGGTTTGGGTTCCTGTGGGAGTACTAGAGGGCCTGGGGACTC
a S V F L F P P K P K D T L M I S R T P E -
121 GTCACATGCGTGGTGGTGGACGTGAGCCACGAAGACCCTGAGGTCAAGTTCAACTGGTAC 180
-----+-----+-----+-----+-----+-----+
CAGTGTACGCACCACCACCTGCACTCGGTGCTTCTGGGACTCCAGTTCAAGTTGACCATG
a V T C V V V D V S H E D P E V K F N W Y -
181 GTGGACGGCGTGGAGGTGCATAATGCCAAGACAAAGCCGCGGGAGGAGCAGTACAACAGC 240
-----+-----+-----+-----+-----+-----+
CACCTGCCGCACCTCCACGTATTACGGTTCTGTTTCGGCGCCCTCCTCGTCATGTTGTCTG
a V D G V E V H N A K T K P R E E Q Y N S -
241 ACGTACCGTGTGGTCAGCGTCCCTCACCGTCCCTGCACCAGGACTGGCTGAATGGCAAGGAG 300
-----+-----+-----+-----+-----+-----+
TGCATGGCACACCAGTCGCAGGAGTGGCAGGACGTGGTCCCTGACCGACTTACCGTTCCTC
a T Y R V V S V L T V L H Q D W L N G K E -
301 TACAAGTGCAAGGTCTCCAACAAAGCCCTCCCAGCCCCCATCGAGAAAACCATCTCCAAA 360
-----+-----+-----+-----+-----+-----+
ATGTTTCACGTTCCAGAGGTTGTTTCGGGAGGGTCGGGGGTAGCTCTTTTGGTAGAGGTTT
a Y K C K V S N K A L P A P I E K T I S K -
361 GCCAAAGGGCAGCCCCGAGAACCACAGGTGTACACCCTGCCCCCATCCCGGGATGAGCTG 420
-----+-----+-----+-----+-----+-----+
CGGTTTCCCGTCGGGGCTCTTGGTGTCCACATGTGGGACGGGGGTAGGGCCCTACTCGAC
a A K G Q P R E P Q V Y T L P P S R D E L -
421 ACCAAGAACCAGGTGACCTGACCTGCCTGGTCAAAGGCTTCTATCCCAGCGACATCGCC 480
-----+-----+-----+-----+-----+-----+
TGGTTCCTTGGTCCAGTCGGACTGGACGGACCAGTTTCCGAAGATAGGGTCGCTGTAGCGG
a T K N Q V S L T C L V K G F Y P S D I A -
481 GTGGAGTGGGAGAGCAATGGGCAGCCGGAGAACAACACTACAAGACCACGCCTCCCGTGCTG 540
-----+-----+-----+-----+-----+-----+
CACCTCACCTCTCGTTACCCGTCGGCCTCTTGTGATGTTCTGGTGCAGGAGGCACGAC
a V E W E S N G Q P E N N Y K T T P P V L -
541 GACTCCGACGGCTCCTTCTCCTCTACAGCAAGCTCACCGTGGACAAGAGCAGGTGGCAG 600
-----+-----+-----+-----+-----+-----+
CTGAGGCTGCCGAGGAAGAAGGAGATGTCGTTTCGAGTGGCACCTGTTCTCGTCCACCGTC
a D S D G S F F L Y S K L T V D K S R W Q -

FIGURE 19B

```

601  CAGGGGAACGTCTTCTCATGCTCCGTGATGAGGCTCTGCACAACCACTACACGCAG
-----+-----+-----+-----+-----+-----+-----+
a    Q  G  N  V  F  S  C  S  V  M  H  E  A  L  H  N  H  Y  T  Q  -
661  AAGAGCCTCTCCCTGTCTCCGGGTAAAGGTGGAGGTGGTGGTGACTTCTGCCGCACTAC
-----+-----+-----+-----+-----+-----+-----+
a    K  S  L  S  L  S  P  G  K  G  G  G  G  G  G  D  F  L  P  H  Y  -
                                     BamHI
                                     |
721  AAAAACACCTCTCTGGGTCACCGTCCGTAATGGATCC
-----+-----+-----+-----+-----+-----+
a    K  N  T  S  L  G  H  R  P  *
757  TTTTGTGGAGAGACCCAGTGGCAGGCATTACCTAGG

```

FIGURE 20A

NdeI
|
CATATGGACTTCCTGCCGCACTACAAAAACACCTCTCTGGGTACACGTCCGGGTGGAGGC
1 -----+-----+-----+-----+-----+-----+ 60
GTATACCTGAAGGACGGCGTGATGTTTTGTGGAGAGACCCAGTGGCAGGCCACCTCCG

a M D F L P H Y K N T S L G H R P G G G -

GGTGGGGACAAAACACACATGTCCACCTTGCCCAGCACCTGAACTCCTGGGGGGACCG
61 -----+-----+-----+-----+-----+-----+ 120
CCACCCCTGTTTTGAGTGTGTACAGGTGGAACGGGTCTGTGGACTTGAGGACCCCCCTGGC

a G G D K T H T C P P C P A P E L L G G P -

TCAGTTTTCTCTTCCCCCAAAACCAAGGACACCCTCATGATCTCCCGGACCCCTGAG
121 -----+-----+-----+-----+-----+-----+ 180
AGTCAAAAGGAGAAGGGGGGTTTTGGGTTCCTGTGGGAGTACTAGAGGGCCTGGGGACTC

a S V F L F P P K P K D T L M I S R T P E -

GTCACATGCGTGGTGGTGGACGTGAGCCACGAAGACCCTGAGGTCAAGTTCAACTGGTAC
181 -----+-----+-----+-----+-----+-----+ 240
CAGTGTACGCACCACCACCTGCACTCGGTGCTTCTGGGACTCCAGTTCAAGTTGACCATG

a V T C V V V D V S H E D P E V K F N W Y -

GTGGACGGCGTGAGGTGCATAATGCCAAGACAAAGCCGCGGGAGGAGCAGTACAACAGC
241 -----+-----+-----+-----+-----+-----+ 300
CACCTGCCGCACCTCCACGTATTACGGTTCTGTTTCGGCGCCCTCCTCGTCATGTTGTCG

a V D G V E V H N A K T K P R E E Q Y N S -

ACGTACCGTGTGGTCAGCGTCTCACCGTCTGCACCAGGACTGGCTGAATGGCAAGGAG
301 -----+-----+-----+-----+-----+-----+ 360
TGCATGGCACACCAGTCGCAGGAGTGGCAGGACGTGGTCCTGACCGACTTACCGTTCCTC

a T Y R V V S V L T V L H Q D W L N G K E -

TACAAGTGCAAGGTCTCCAACAAAGCCCTCCCAGCCCCATCGAGAAAACCATCTCCA
361 -----+-----+-----+-----+-----+-----+ 420
ATGTTTCAGTTCCAGAGGTTGTTTCGGGAGGGTCGGGGGTAGCTCTTTTGGTAGAGGTTT

a Y K C K V S N K A L P A P I E K T I S K -

GCCAAAGGGCAGCCCCGAGAACCACAGGTGTACACCCTGCCCCCATCCCGGGATGAGCTG
421 -----+-----+-----+-----+-----+-----+ 480
CGGTTTCCCGTCGGGGCTCTTGGTGTCCACATGTGGGACGGGGGTAGGGCCCTACTCGAC

a A K G Q P R E P Q V Y T L P P S R D E L -

ACCAAGAACCAGGTGAGCCTGACCTGCCTGGTCAAAGGCTTCTATCCCAGCGACATCGCC
481 -----+-----+-----+-----+-----+-----+ 540
TGGTTCTTGGTCCAGTCGGACTGGACGGACAGTTTCCGAAGATAGGGTCGCTGTAGCGG

a T K N Q V S L T C L V K G F Y P S D I A -

GTGGAGTGGGAGAGCAATGGGCAGCCGGAGAACAACACTACAAGACCACGCCTCCCGTGCTG
541 -----+-----+-----+-----+-----+-----+ 600
CACCTCACCTCTCGTTACCCGTCGGCCTCTTGTGATGTTCTGGTGGGAGGGCAGCAG

a V E W E S N G Q P E N N Y K T T P P V L -

FIGURE 20B

```

601  GACTCCGACGGCTCCTTCTTCTCTACAGCAAGCTCACC GTGGACAAGAGCAGGTGGCAG
      -----+-----+-----+-----+-----+-----+ 660
      CTGAGGCTGCCGAGGAAGAAGGAGATGTCGTTGAGTGGCACCTGTTCTCGTCCACCGTC

a    D S D G S F F L Y S K L T V D K S R W Q -

      CAGGGGAACGTCTTCTCATGCTCCGTGATGCATGAGGCTCTGCACAACCACTACACGCAG
661  -----+-----+-----+-----+-----+-----+ 720
      GTCCCCTTGCAGAAGAGTACGAGGCACTACGTACTCCGAGACGTGTTGGTGATGTGCGTC

a    Q G N V F S C S V M H E A L H N H Y T Q -

                                     BamHI
                                     |
      AAGAGCCTCTCCCTGTCTCCGGGTAAATAATGGATCCGCGG
721  -----+-----+-----+-----+-----+-----+ 761
      TTCTCGGAGAGGGACAGAGGCCCATTTATTACCTAGGCGCC

a    K S L S L S P G K *
```

a
b
c
d
e
f
g
h
i
j
k
l
m
n
o
p
q
r
s
t
u
v
w
x
y
z

FIGURE 21A

NdeI
|
CATATGGACAAAACCTCACACATGTCCACCTTGTCCAGCTCCGGAACCTCTGGGGGGACCG
1 -----+-----+-----+-----+-----+-----+-----+ 60
GTATACCTGTTTTGAGTGTGTACAGGTGGAACAGGTGAGGCCTTGAGGACCCCCCTGGC

a M D K T H T C P P C P A P E L L G G P -

61 TCAGTCTTCCTCTTCCCCCAAAACCCAAGGACACCCTCATGATCTCCCGGACCCCTGAG
-----+-----+-----+-----+-----+-----+-----+ 120
AGTCAGAAGGAGAAGGGGGGTTTGGGTTCCTGTGGGAGTACTAGAGGGCCTGGGGACTC

a S V F L F P P K P K D T L M I S R T P E -

121 GTCACATGCGTGGTGGTGGACGTGAGCCACGAAGACCCTGAGGTCAAGTTCAACTGGTAC
-----+-----+-----+-----+-----+-----+-----+ 180
CAGTGTACGCACCACCACCTGCACTCGGTGCTTCTGGGACTCCAGTTCAAGTTGACCATG

a V T C V V V D V S H E D P E V K F N W Y -

181 GTGGACGGCGTGGAGGTGCATAATGCCAAGACAAAGCCGCGGGAGGAGCAGTACAACAGC
-----+-----+-----+-----+-----+-----+-----+ 240
CACCTGCCGCACCTCCACGTATTACGGTTCGTGTTTCGGCGCCCTCCTCGTCATGTTGTCTG

a V D G V E V H N A K T K P R E E Q Y N S -

241 ACGTACCGTGTGGTCAGCGTCCTCACCGTCCTGCACCAGGACTGGCTGAATGGCAAGGAG
-----+-----+-----+-----+-----+-----+-----+ 300
TGCATGGCACACCAGTCGCAGGAGTGGCAGGACGTGGTCCTGACCGACTTACCGTTCCTC

a T Y R V V S V L T V L H Q D W L N G K E -

301 TACAAGTGCAAGGTCTCCAACAAAGCCCTCCCAGCCCCCATCGAGAAAACCATCTCCAAA
-----+-----+-----+-----+-----+-----+-----+ 360
ATGTTACAGTTCCAGAGGTTGTTTCGGGAGGGTCGGGGGTAGCTCTTTTGGTAGAGGTTT

a Y K C K V S N K A L P A P I E K T I S K -

361 GCCAAAGGGCAGCCCCGAGAACCACAGGTGTACACCCTGCCCCCATCCCCGGGATGAGCTG
-----+-----+-----+-----+-----+-----+-----+ 420
CGGTTTCCCGTCGGGGCTCTTGGTGTCCACATGTGGGACGGGGGTAGGGCCCTACTCGAC

a A K G Q P R E P Q V Y T L P P S R D E L -

421 ACCAAGAACCAGGTGACCTGACCTGCCTGGTCAAAGGCTTCTATCCCAGCGACATCGCC
-----+-----+-----+-----+-----+-----+-----+ 480
TGGTTCTTGGTCCAGTCGGACTGGACGGACAGTTTCCGAAGATAGGGTCGCTGTAGCGG

a T K N Q V S L T C L V K G F Y P S D I A -

481 GTGGAGTGGGAGAGCAATGGGCAGCCGGAACAACACTACAAGACCACGCCTCCCGTGCTG
-----+-----+-----+-----+-----+-----+-----+ 540
CACCTCACCTCTCGTTACCCGTCGGCCTCTTGTGATGTTCTGGTGCGGAGGGCACGAC

a V E W E S N G Q P E N N Y K T T P P V L -

541 GACTCCGACGGCTCCTTCTTCTCTACAGCAAGCTCACCGTGGACAAGAGCAGGTGGCAG
-----+-----+-----+-----+-----+-----+-----+ 600
CTGAGGCTGCCGAGGAAGAAGGAGATGTCGTTGAGTGGCACCTGTTCTCGTCCACCGTC

a D S D G S F F L Y S K L T V D K S R W Q -

FIGURE 21B

```

601  CAGGGGAACGTCTTCTCATGCTCCGTGATGCATGAGGCTCTGCACAACCACTACACGCAG
-----+-----+-----+-----+-----+ 660
GTCCCCTTGCAGAAGAGTACGAGGCACTACGTACTCCGAGACGTGTTGGTGATGTGCGTC

a    Q  G  N  V  F  S  C  S  V  M  H  E  A  L  H  N  H  Y  T  Q  -

      AAGAGCCTCTCCCTGTCTCCGGGTAAAGGTGGAGGTGGTGGTTTCGAATGGACCCCGGGT
661  -----+-----+-----+-----+-----+ 720
      TTCTCGGAGAGGGACAGAGGCCCATTTCCACCTCCACCACCAAAGCTTACCTGGGGCCCA

a    K  S  L  S  L  S  P  G  K  G  G  G  G  G  F  E  W  T  P  G  -

                                     BamHI
                                     |
      TACTGGCAGCCGTACGCTCTGCCGCTGTAATGGATCCCTCGAG
721  -----+-----+-----+-----+ 763
      ATGACCGTCGGCATGCGAGACGGCGACATTACCTAGGGAGCTC

a    Y  W  Q  P  Y  A  L  P  L  *

```

601 660 720 763

FIGURE 22A

NdeI
|
CATATGTTTGAATGGACCCCGGGTTACTGGCAGCCGTACGCTCTGCCGCTGGGTGGAGGC
1 -----+-----+-----+-----+-----+-----+-----+ 60
GTATAACAAGCTTACCTGGGGCCCAATGACCGTCGGCATGCGAGACGGCGACCCACCTCCG

a M F E W T P G Y W Q P Y A L P L G G G -

GGTGGGGACAAAACCTCACACATGTCCACCTTGCCCAGCACCTGAACTCCTGGGGGGACCG
61 -----+-----+-----+-----+-----+-----+-----+ 120
CCACCCCTGTTTTGAGTGTGTACAGGTGGAACGGGTCGTGGACTTGAGGACCCCCCTGGC

a G G D K T H T C P P C P A P E L L G G P -

TCAGTTTTCTCTTCCCCCAAAACCAAGGACACCTCATGATCTCCCGGACCCCTGAG
121 -----+-----+-----+-----+-----+-----+-----+ 180
AGTCAAAAGGAGAAGGGGGGTTTTGGGTTCTGTGGGAGTACTAGAGGGCCTGGGGACTC

a S V F L F P P K P K D T L M I S R T P E -

GTCACATGCGTGGTGGTGGACGTGAGCCACGAAGACCCTGAGGTCAAGTTCAACTGGTAC
181 -----+-----+-----+-----+-----+-----+-----+ 240
CAGTGTACGCACCACCACCTGCACTCGGTGCTTCTGGGACTCCAGTTCAAGTTGACCATG

a V T C V V V D V S H E D P E V K F N W Y -

GTGGACGGCGTGGAGGTGCATAATGCCAAGACAAAGCCGCGGGAGGAGCAGTACAACAGC
241 -----+-----+-----+-----+-----+-----+-----+ 300
CACCTGCCGCACCTCCACGTATTACGGTTCTGTTTCGGCGCCCTCCTCGTCATGTTGTCTG

a V D G V E V H N A K T K P R E E Q Y N S -

ACGTACCGTGTGGTCAGCGTCCTCACCGTCCTGCACCAGGACTGGCTGAATGGCAAGGAG
301 -----+-----+-----+-----+-----+-----+-----+ 360
TGCATGGCACACCAGTCGCAGGAGTGGCAGGACGTGGTCCTGACCGACTTACCGTTCCCTC

a T Y R V V S V L T V L H Q D W L N G K E -

TACAAGTGCAAGGTCTCCAACAAAGCCCTCCAGCCCCCATCGAGAAAACCATCTCCA
361 -----+-----+-----+-----+-----+-----+-----+ 420
ATGTTTCACGTTCCAGAGGTTGTTTCGGGAGGGTCGGGGGTAGCTCTTTTGGTAGAGGTTT

a Y K C K V S N K A L P A P I E K T I S K -

GCCAAAGGGCAGCCCCGAGAACCACAGGTGTACACCCTGCCCCCATCCCCGGATGAGCTG
421 -----+-----+-----+-----+-----+-----+-----+ 480
CGGTTTCCCGTCGGGGCTCTTGGTGTCCACATGTGGGACGGGGGTAGGGCCCTACTCGAC

a A K G Q P R E P Q V Y T L P P S R D E L -

ACCAAGAACCAGGTGAGCCTGACCTGCCTGGTCAAAGGCTTCTATCCCAGCGACATCGCC
481 -----+-----+-----+-----+-----+-----+-----+ 540
TGTTTCTTGGTCCAGTCGGACTGGACGGACAGTTTCCGAAGATAGGGTCGCTGTAGCGG

a T K N Q V S L T C L V K G F Y P S D I A -

GTGGAGTGGGAGAGCAATGGGCAGCCGAGAACTACAAGACCACGCCTCCCGTGCTG
541 -----+-----+-----+-----+-----+-----+-----+ 600
CACCTCACCTCTCGTTACCCGTCGGCCTCTTGTGATGTTCTGGTGCGGAGGGCACGAC

a V E W E S N G Q P E N N Y K T T P P V L -

FIGURE 22B

```

601  GACTCCGACGGCTCCTTCTTCTCTACAGCAAGCTCACCGTGGACAAGAGCAGGTGGCAG
-----+-----+-----+-----+-----+ 660
CTGAGGCTGCCGAGGAAGAAGGAGATGTCGTTTCGAGTGGCACCTGTTCTCGTCCACCGTC

a    D S D G S F F L Y S K L T V D K S R W Q -

661  CAGGGGAACGTCTTCTCATGCTCCGTGATGCATGAGGCTCTGCACAACCACTACACGCAG
-----+-----+-----+-----+-----+ 720
GTCCCCCTTGACAGAAGAGTACGAGGCACTACGTACTCCGAGACGTGTTGGTGATGTGCGTC

a    Q G N V F S C S V M H E A L H N H Y T Q -

                                     BamHI
                                     |
721  AAGAGCCTCTCCCTGTCTCCGGGTAAATAATGGATCC
-----+-----+-----+-----+ 757
TTCTCGGAGAGGGACAGAGGCCCATTTATTACCTAGG

a    K S L S L S P G K *

```

601 660 720 757

FIGURE 23A

NdeI
|
CATATGGACAAAACCTCACACATGTCCACCGTGCCAGCACCTGAACTCCTGGGGGGACCG
1 -----+-----+-----+-----+-----+-----+ 60
GTATACCTGTTTTGAGTGTGTACAGGTGGCACGGTCGTGGACTTGAGGACCCCCCTGGC

a M D K T H T C P P C P A P E L L G G P -

61 TCAGTTTTCTCTTCCCCCAAAACCAAGGACACCCTCATGATCTCCCGGACCCCTGAG
-----+-----+-----+-----+-----+-----+ 120
AGTCAAAGGAGAAGGGGGGTTTTGGGTTCTGTGGGAGTACTAGAGGGCCTGGGGACTC

a S V F L F P P K P K D T L M I S R T P E -

121 GTCACATGCGTGGTGGTGGACGTGAGCCACGAAGACCCTGAGGTCAAGTTCAACTGGTAC
-----+-----+-----+-----+-----+-----+ 180
CAGTGTACGCACCACCACCTGCACTCGGTGCTTCTGGGACTCCAGTTCAAGTTGACCATG

a V T C V V V D V S H E D P E V K F N W Y -

181 GTGGACGGCGTGGAGGTGCATAATGCCAAGACAAAGCCGCGGGAGGAGCAGTACAACAGC
-----+-----+-----+-----+-----+-----+ 240
CACCTGCCGCACCTCCACGTATTACGGTTCTGTTTCGGCGCCCTCCTCGTCATGTTGTGC

a V D G V E V H N A K T K P R E E Q Y N S -

241 ACGTACCGTGTGGTCAGCGTCCTCACCGTCCTGCACCAGGACTGGCTGAATGGCAAGGAG
-----+-----+-----+-----+-----+-----+ 300
TGCATGGCACACCAGTCGCAGGAGTGGCAGGACGTGGTCCTGACCGACTTACCGTTCCCTC

a T Y R V V S V L T V L H Q D W L N G K E -

301 TACAAGTGCAAGGTCTCCAACAAAGCCCTCCAGCCCCCATCGAGAAAACCATCTCCAAA
-----+-----+-----+-----+-----+-----+ 360
ATGTTTCACGTTCCAGAGGTTGTTTCGGGAGGGTCGGGGGTAGCTCTTTTGGTAGAGGTTT

a Y K C K V S N K A L P A P I E K T I S K -

361 GCCAAAGGGCAGCCCCGAGAACCACAGGTGTACACCCTGCCCCCATCCCGGGATGAGCTG
-----+-----+-----+-----+-----+-----+ 420
CGGTTTCCCGTCGGGGCTCTTGGTGTCCACATGTGGGACGGGGGTAGGGCCCTACTCGAC

a A K G Q P R E P Q V Y T L P P S R D E L -

421 ACCAAGAACCAGGTCAGCCTGACCTGCCTGGTCAAAGGCTTCTATCCCAGCGACATCGCC
-----+-----+-----+-----+-----+-----+ 480
TGGTTCTTGGTCCAGTCGGACTGGACGGACCAGTTTCCGAAGATAGGGTCGCTGTAGCGG

a T K N Q V S L T C L V K G F Y P S D I A -

481 GTGGAGTGGGAGAGCAATGGGCAGCCGGAGAACAACACTACAAGACCACGCCTCCCGTGCTG
-----+-----+-----+-----+-----+-----+ 540
CACCTCACCTCTCGTTACCCGTCGGCCTCTTGTGATGTTCTGGTGCAGGAGGCACGAC

a V E W E S N G Q P E N N Y K T T P P V L -

541 GACTCCGACGGCTCCTTCTTCTCTACAGCAAGCTCACCGTGGACAAGAGCAGGTGGCAG
-----+-----+-----+-----+-----+-----+ 600
CTGAGGCTGCCGAGGAAGAAGGAGATGTCGTTGAGTGGCACCTGTTCTCGTCCACCGTC

a D S D G S F F L Y S K L T V D K S R W Q -

FIGURE 23B

601 CAGGGGAACGTCTTCTCATGCTCCGTGATGCATGAGGCTCTGCACAACCACTACACGCAG 660
-----+-----+-----+-----+-----+-----+
GTCCCCCTTGACAGAAGAGTACGAGGCACTACGTACTCCGAGACGTGTTGGTGATGTGCGTC

a Q G N V F S C S V M H E A L H N H Y T Q -

661 AAGAGCCTCTCCCTGTCTCCGGGTAAAGGTGGTGGTGGTGGTGGTGAACCGAACTGTGAC 720
-----+-----+-----+-----+-----+-----+
TTCTCGGAGAGGGACAGAGGCCCATTTCCACCACCACCACCACAACCTTGGCTTGACACTG

a K S L S L S P G K G G G G G V E P N C D -

BamHI
|

721 ATCCATGTTATGTGGGAATGGGAATGTTTTGAACGTCTGTAACCTCGAGGATCC 773
-----+-----+-----+-----+-----+-----+
TAGGTACAATACACCCTTACCCTTACAAAACCTTGCAGACATTGAGCTCCTAGG

a I H V M W E W E C F E R L *

FIGURE 24A

NdeI
|
CATATGGTTGAACCGAACTGTGACATCCATGTTATGTGGGAATGGGAATGTTTTGAACGT
1 -----+-----+-----+-----+-----+-----+-----+ 60
GTATACCAACTTGGCTTGACACTGTAGGTACAATACACCCTTACCCTTACAAAACCTTGCA

a M V E P N C D I H V M W E W E C F E R -

61 CTGGGTGGTGGTGGTGGTGACAAAACCTCACACATGTCCACCGTGCCCAGCACCTGAACTC
-----+-----+-----+-----+-----+-----+-----+ 120
GACCCACCACCACCACCACTGTTTTGAGTGTGTACAGGTGGCACGGGTTCGTGGACTTGAG

a L G G G G G D K T H T C P P C P A P E L -

121 CTGGGGGGACCGTCAGTTTTCTCTTCCCCCAAACCCAAGGACACCCTCATGATCTCC
-----+-----+-----+-----+-----+-----+-----+ 180
GACCCCCCTGGCAGTCAAAGGAGAAGGGGGGTTTTGGGTTCCTGTGGGAGTACTAGAGG

a L G G P S V F L F P P K P K D T L M I S -

181 CGGACCCCTGAGGTCACATGCGTGGTGGTGGACGTGAGCCACGAAGACCCTGAGGTCAAG
-----+-----+-----+-----+-----+-----+-----+ 240
GCCTGGGGACTCCAGTGTACGCACCACCACCTGCACTCGGTGCTTCTGGGACTCCAGTTC

a R T P E V T C V V V D V S H E D P E V K -

241 TTCAACTGGTACGTGGACGGCGTGGAGGTGCATAATGCCAAGACAAAGCCGCGGGAGGAG
-----+-----+-----+-----+-----+-----+-----+ 300
AAGTTGACCATGCACCTGCCGCACCTCCACGTATTACGGTTCTGTTTCGGCGCCCTCCTC

a F N W Y V D G V E V H N A K T K P R E E -

301 CAGTACAACAGCACGTACCGTGTGGTCAGCGTCCTCACCGTCCTGCACCAGGACTGGCTG
-----+-----+-----+-----+-----+-----+-----+ 360
GTCATGTTGTCTGTCATGGCACACCAGTCGCAGGAGTGGCAGGACGTGGTCTCTGACCGAC

a Q Y N S T Y R V V S V L T V L H Q D W L -

361 AATGGCAAGGAGTACAAGTGCAAGGTCTCCAACAAAGCCCTCCCAGCCCCCATCGAGAAA
-----+-----+-----+-----+-----+-----+-----+ 420
TTACCGTTCTCATGTTTCACGTTCCAGAGGTTGTTTCGGGAGGGTCGGGGGTAGCTCTTT

a N G K E Y K C K V S N K A L P A P I E K -

421 ACCATCTCCAAAGCCAAAGGGCAGCCCCGAGAACCACAGGTGTACACCCTGCCCCCATCC
-----+-----+-----+-----+-----+-----+-----+ 480
TGGTAGAGGTTTCGGTTTCCCGTCGGGGCTCTTGGTGTCCACATGTGGGACGGGGGTAGG

a T I S K A K G Q P R E P Q V Y T L P P S -

481 CGGGATGAGCTGACCAAGAACCAGGTCAGCCTGACCTGCCTGGTCAAAGGCTTCTATCCC
-----+-----+-----+-----+-----+-----+-----+ 540
GCCCTACTCGACTGGTTCTTGGTCCAGTCGGACTGGACGGACAGTTTCCGAAGATAGGG

a R D E L T K N Q V S L T C L V K G F Y P -

541 AGCGACATCGCCGTGGAGTGGGAGAGCAATGGGCAGCCGGAGAACAACACTACAAGACCACG
-----+-----+-----+-----+-----+-----+-----+ 600
TCGCTGTAGCGGCACCTCACCTCTCGTTACCCGTCGGCCTCTTGTTGATGTTCTGGTGC

a S D I A V E W E S N G Q P E N N Y K T T -

FIGURE 24B

601 CCTCCCGTGCTGGACTCCGACGGCTCCTTCTTCCTCTACAGCAAGCTCACCGTGGACAAG 660
-----+-----+-----+-----+-----+-----+
GGAGGGGCACGACCTGAGGCTGCCGAGGAAGAAGGAGATGTCGTTTCGAGTGGCACCTGTTC
a P P V L D S D G S F F L Y S K L T V D K -
AGCAGGTGGCAGCAGGGGAACGTCTTCTCATGCTCCGTGATGCATGAGGCTCTGCACAAC
661 -----+-----+-----+-----+-----+-----+ 720
TCGTCCACCGTCGTCCCCTTGCAGAAGAGTACGAGGCACTACGTACTCCGAGACGTGTTG
a S R W Q Q G N V F S C S V M H E A L H N -
BamHI
|
721 CACTACACGCAGAAGAGCCTCTCCCTGTCTCCGGGTAAATAACTCGAGGATCC 773
-----+-----+-----+-----+-----+-----+
GTGATGTGCGTCTTCTCGGAGAGGGACAGAGGCCCATTTATTGAGCTCCTAGG
a H Y T Q K S L S L S P G K *

CCCGTGCTGGACTCCGACGGCTCCTTCTTCCTCTACAGCAAGCTCACCGTGGACAAG
GGAGGGGCACGACCTGAGGCTGCCGAGGAAGAAGGAGATGTCGTTTCGAGTGGCACCTGTTC
P P V L D S D G S F F L Y S K L T V D K -
AGCAGGTGGCAGCAGGGGAACGTCTTCTCATGCTCCGTGATGCATGAGGCTCTGCACAAC
TCGTCCACCGTCGTCCCCTTGCAGAAGAGTACGAGGCACTACGTACTCCGAGACGTGTTG
S R W Q Q G N V F S C S V M H E A L H N -
BamHI
|
CACTACACGCAGAAGAGCCTCTCCCTGTCTCCGGGTAAATAACTCGAGGATCC
GTGATGTGCGTCTTCTCGGAGAGGGACAGAGGCCCATTTATTGAGCTCCTAGG
H Y T Q K S L S L S P G K *

FIGURE 25A

NdeI
|
1 CATATGGACAAAACCTCACACATGTCCACCTTGTCAGCTCCGGAACCTCTGGGGGGACCG 60
-----+-----+-----+-----+-----+
GTATACCTGTTTTGAGTGTGTACAGGTGGAACAGGTCGAGGCCTTGAGGACCCCCCTGGC

a M D K T H T C P P C P A P E L L G G P -

61 TCAGTCTTCCTCTTCCCCCAAAACCCAAGGACACCCTCATGATCTCCCGGACCCCTGAG 120
-----+-----+-----+-----+-----+
AGTCAGAAGGAGAAGGGGGGTTTTGGGTTCCTGTGGGAGTACTAGAGGGCCTGGGGACTC

a S V F L F P P K P K D T L M I S R T P E -

121 GTCACATGCGTGGTGGTGGACGTGAGCCACGAAGACCCTGAGGTCAAGTTCAACTGGTAC 180
-----+-----+-----+-----+-----+
CAGTGTACGCACCACCACCTGCACTCGGTGCTTCTGGGACTCCAGTTCAAGTTGACCATG

a V T C V V V D V S H E D P E V K F N W Y -

181 GTGGACGGCGTGGAGGTGCATAATGCCAAGACAAAGCCGCGGGAGGAGCAGTACAACAGC 240
-----+-----+-----+-----+-----+
CACCTGCCGCACCTCCACGTATTACGGTTCTGTTTCGGCGCCCTCCTCGTCATGTTGTGCG

a V D G V E V H N A K T K P R E E Q Y N S -

241 ACGTACCGTGTGGTCAAGCTCCTCACCGTCTGCACCAGGACTGGCTGAATGGCAAGGAG 300
-----+-----+-----+-----+-----+
TGCATGGCACACCAGTCGCAGGAGTGGCAGGACGTGGTCTGACCGACTTACCGTTCCCTC

a T Y R V V S V L T V L H Q D W L N G K E -

301 TACAAGTGCAAGGTCTCCAACAAAGCCCTCCAGCCCCCATCGAGAAAACCATCTCCAAA 360
-----+-----+-----+-----+-----+
ATGTTACAGTTCAGAGGTTGTTTCGGGAGGGTCCGGGGTAGCTCTTTTGGTAGAGGTTT

a Y K C K V S N K A L P A P I E K T I S K -

361 GCCAAAGGGCAGCCCCGAGAACCACAGGTGTACACCCTGCCCCCATCCCCGGGATGAGCTG 420
-----+-----+-----+-----+-----+
CGGTTTCCCGTCGGGGCTCTTGGTGTCCACATGTGGGACGGGGTAGGGCCCTACTCGAC

a A K G Q P R E P Q V Y T L P P S R D E L -

421 ACCAAGAACCAGGTCAGCCTGACCTGCCTGGTCAAAGGCTTCTATCCCAGCGACATCGCC 480
-----+-----+-----+-----+-----+
TGGTTCTTGGTCCAGTCGGAAGTGGACGGACAGTTTCCGAAGATAGGGTCGCTGTAGCGG

a T K N Q V S L T C L V K G F Y P S D I A -

481 GTGGAGTGGGAGAGCAATGGGCAGCCGGAACAACACTACAAGACCACGCCTCCCGTGCTG 540
-----+-----+-----+-----+-----+
CACCTCACCTCTCGTTACCCGTGCGCCTCTTGTGATGTTCTGGTGCGGAGGGCAGCAG

a V E W E S N G Q P E N N Y K T T P P V L -

541 GACTCCGACGGCTCCTTCTTCTCTACAGCAAGCTCACCGTGGACAAGAGCAGGTGGCAG 600
-----+-----+-----+-----+-----+
CTGAGGCTGCCGAGGAAGAAGGAGATGTCGTTGAGTGGCACCTGTTCTCGTCCACCGTC

a D S D G S F F L Y S K L T V D K S R W Q -

FIGURE 25B

```

601  CAGGGGAACGTCTTCTCATGCTCCGTGATGCATGAGGCTCTGCACAACCACTACACGCAG
-----+-----+-----+-----+-----+-----+-----+ 660
      GTCCCTTGCAGAAGAGTACGAGGCACTACGTACTCCGAGACGTGTTGGTGATGTGCGTC

a      Q  G  N  V  F  S  C  S  V  M  H  E  A  L  H  N  H  Y  T  Q  -

      AAGAGCCTCTCCCTGTCTCCGGGTAAAGGTGGAGGTGGTGGTTGCACCACCCACTGGGGT
661  -----+-----+-----+-----+-----+-----+ 720
      TTCTCGGAGAGGGACAGAGGCCCATTTCCACCTCCACCACCAACGTGGTGGGTGACCCCA

A      K  S  L  S  L  S  P  G  K  G  G  G  G  G  C  T  T  H  W  G  -

              BamHI
              |
      TTCACCCTGTGCTAATGGATCCCTCGAG
721  -----+-----+-----+-----+-----+ 748
      AAGTGGGACACGATTACCTAGGGAGCTC

a      F  T  L  C  *
```

FIGURE 26A

NdeI
|
CATATGTGCACCACCCACTGGGGTTTCACCCTGTGCGGTGGAGGCGGTGGGGACAAAGGT
1 -----+-----+-----+-----+-----+-----+ 60
GTATACACGTGGTGGGTGACCCCAAAGTGGGACACGCCACCTCCGCCACCCCTGTTTCCA

a M C T T H W G F T L C G G G G G D K G -

61 GGAGGCGGTGGGGACAAACTCACACATGTCCACCTTGCCCAGCACCTGAACTCCTGGGG
-----+-----+-----+-----+-----+-----+ 120
CCTCCGCCACCCCTGTTTTGAGTGTGTACAGGTGGAACGGGTCGTGGACTTGAGGACCCC

a G G G G D K T H T C P P C P A P E L L G -

121 GGACCGTCAGTTTTCTCTTCCCCCAAACCAAGGACACCCTCATGATCTCCCGGACC
-----+-----+-----+-----+-----+-----+ 180
CCTGGCAGTCAAAGGAGAAGGGGGTTTTGGGTTCCTGTGGGAGTACTAGAGGGCCTGG

a G P S V F L F P P K P K D T L M I S R T -

181 CCTGAGGTCACATGCGTGGTGGTGGACGTGAGCCACGAAGACCCTGAGGTCAAGTTCAAC
-----+-----+-----+-----+-----+-----+ 240
GGACTCCAGTGTACGCACCACCACCTGCACTCGGTGCTTCTGGGACTCCAGTTCAAGTTG

a P E V T C V V V D V S H E D P E V K F N -

241 TGGTACGTGGACGGCGTGGAGGTGCATAATGCCAAGACAAAGCCGCGGGAGGAGCAGTAC
-----+-----+-----+-----+-----+-----+ 300
ACCATGCACCTGCCGCACCTCCACGTATTACGGTTCTGTTTCGGCGCCCTCCTCGTCATG

a W Y V D G V E V H N A K T K P R E E Q Y -

301 AACAGCACGTACCGTGTGGTCAGCGTCCTCACCGTCCTGCACCAGGACTGGCTGAATGGC
-----+-----+-----+-----+-----+-----+ 360
TTGTCGTGCATGGCACACCAGTCGCAGGAGTGGCAGGACGTGGTCCTGACCGACTTACCG

a N S T Y R V V S V L T V L H Q D W L N G -

361 AAGGAGTACAAGTGCAAGGTCTCCAACAAAGCCCTCCCAGCCCCCATCGAGAAAACCATC
-----+-----+-----+-----+-----+-----+ 420
TTCTCATGTTTCACGTTCCAGAGTTGTTTCGGGAGGGTCGGGGGTAGCTCTTTTGGTAG

a K E Y K C K V S N K A L P A P I E K T I -

421 TCCAAAGCCAAAGGGCAGCCCCGAGAACCACAGGTGTACACCCTGCCCCCATCCCGGGAT
-----+-----+-----+-----+-----+-----+ 480
AGGTTTCGGTTTCCCGTCGGGGCTCTTGGTGTCCACATGTGGGACGGGGGTAGGGCCCTA

a S K A K G Q P R E P Q V Y T L P P S R D -

481 GAGCTGACCAAGAACCAGGTGACCTGACCTGCCTGGTCAAAGGCTTCTATCCCAGCGAC
-----+-----+-----+-----+-----+-----+ 540
CTCGACTGGTTCTTGGTCCAGTCGGACTGGACGGACAGTTTCCGAAGATAGGGTCGCTG

a E L T K N Q V S L T C L V K G F Y P S D -

541 ATCGCCGTGGAGTGGGAGAGCAATGGGCAGCCGGGAGAACTACAAGACCACGCCTCCC
-----+-----+-----+-----+-----+-----+ 600
TAGCGGCACCTCACCTCTCGTTACCCGTCGGCCTCTTGTGATGTTCTGGTGGGAGGG

a I A V E W E S N G Q P E N N Y K T T P P -

FIGURE 26B

```

601 GTGCTGGACTCCGACGGCTCCTTCTTCCTCTACAGCAAGCTCACC GTG GACAAGAGCAGG
-----+-----+-----+-----+-----+-----+ 660
CACGACCTGAGGCTGCCGAGGAAGAAGGAGATGTCGTTTCGAGTGGCACCTGTTCTCGTCC

a      V L D S D G S F F L Y S K L T V D K S R -

TGGCAGCAGGGGAACGTCTTCTCATGCTCCGTGATGCATGAGGCTCTGCACAACCACTAC
661 -----+-----+-----+-----+-----+-----+ 720
ACCGTCGTCCCTTGCAGAAGAGTACGAGGCACTACGTACTCCGAGACGTGTTGGTGATG

a      W Q Q G N V F S C S V M H E A L H N H Y -

                                     BamHI
                                     |
ACGCAGAAGAGCCTCTCCCTGTCTCCGGGTAAATAATGGATCC
721 -----+-----+-----+-----+-----+-----+ 763
TGGCTCTTCTCGGAGAGGGACAGAGGCCCATTTATTACCTAGG

a      T Q K S L S L S P G K *
```